

K. & S. Peru - 1929
I
21500-23215

- 21501 *Malvastrum* H ± 3' pet. w.
 2 *Milcaia* H U. cor. tube gr. w., lobes & sty. w.
 3 *Eupatorium* S 3-8' cor. tube grish, lobes & sty. pinkish.
 4 *Baccharis* S 2-4' cor. & sty. w.
 5 *Hydrocotyle bonariensis* H pet. grish. w.
 6 *Speruacoe* repent H ~~heads grish.~~ cor. w.
 7 *comp. (Spilanthes)* repent H heads grish. w.
 8 *Paspalum* H 3-4'
 9 *Lennea*
 10 algae
 1 *Oxolla*
 2 *Scirpus americanus*
 3 *Cyperus*
 4 *Asclepias curassavica* H 1-3' cor. br. r. - canna y.
 5 *Anoda* H subprostrate pet. w.
 6 *Meibomia* H prostrate pet. w., faintly p. tinged.
 7 *Meibomia* U herb. pet. blue, sta. w.; lvs. mottled with w. along midvein.
 8 *Mimosa* S with elongate branches bil. rich p.
 9 *Acacia macracantha* T. with rounded crown, 10-15' pet. & gynoceum pur; pet. reflexed; ant. grish.
 20 *Wissadula* S 1.5-2' 4-6' pet. & ant. br. y.
 1 *Abutilon* S slender; ± 3' cor. br. r.
 2 *acanth* S ± 3' cor. br. r., y. at throat with lobes streaked with darker within
 3 *guier.* S ± 3'
 4 *Passiflora* H U.
 5 *Tournefortia* T 15-20' fr. w. ~~streaked~~ streaked with purple
 6 *Aristolochia* H U. "penguin flower"
 7 *Passiflora* H U.
 8 *clusia?* T 15-20' pet. p., w. prox. - disc y; sty. grish. w.
 9 *Passiflora quadrangularis* H U. fr. pale orange.
 30 *Passiflora* "cacaranda" H U. 25'
 1 *leg.* H prostrate heads w.
 2 *Alternanthera* H pet. pink. blue.
 3 *Sphaeralcea* H
 4 *Urtica* H
 5 *Oxalis* H pet. y.

Apr. 8. roadside

Trujillo

near sea level

moist places, roadside
roadsidetogether floating on surface
of stagnant water.

floating on surface, in ditch

in moist ditch

roadside

12 Botanical Garden

Lima

± 1500m.

Pl. 15

Photo.
S. 2-28, 2-29Apr. 14 ~~Chosica~~ Chosica, ornamental tree

Chosica

± 1000m.

15 ~~Chosica~~ waste places

San Bartolomé

± 1500m.

Surco

- 21536 *Bidens* S. straggling, rays bright y., florets y.
 7 *Bidens tripartita* H sta. purish, pur. striped.
 8 *Oxalis "canosa"* H rays bright y., florets y.
 9 *Peperomia* H forming scanty mats
 40 *Solanum* H ± woody at base cor. deep p. and w.
 1 *Verbena* H decumbent at base aut. y.
 2 *Eupatorium* S 3-5 cor. purish, blue, w. prox.
 3 *Erodium* H matted pet. p.
 4 *Lepidium* H matted pet. greenish w.
 5 *Calceolaria* S 1-2' cor. pale y.
 6 *Nudubeechia* S prostrate, sep. greenish w.
 7 grass H
 8 grass H
 9 grass H
 50 *Styrychnium* H penanth blueish p.
 1 *Salina Relbunium* H forming dense fr. g.
 2 *Valeriana pinnatifida* H variable cor. cream w. to w.
 3 grass H spikelets purish.
 4 *Plantago* H cor. greenish w.
 5 *Leptola* H 1-1½' pappus yish
 6 *Sedum* H in dense mats pet. w.
 7 *Alonsoa* H 1-3' woody at base cor. bright r., purish prox.
 8 *Hemicladys* S 2-4' stem herbaceous aut. bright y.
 9 *Achillea acaena* H caespitose cor. red p., hint. black
 60 *Chilanthus* H
 1 *Pityrogramme* H pet. greenish w.
 2 *Sisymbrium* H up. greenish w.
 3 *Cleistanthus* W.U. fl. grass g.
 4 *Lupinus* S 3-4' pet. blueish pur.; standard pale at center, yish. prox. within
 5 *Oxalis* H 2.5-3' pet. y., r. striped
 6 *Onocerus* H decumbent rays y., florets o.y.
 7 *Medicago lupulina* H pet. x.
 8 *Eupatorium* S 3-5' cor. & sty. pale p. to w.
 9 *Mammia* S 2-4' pet. deep pur.
 70 *Fathyrus magdalenensis* H.V. standard pur.; wings w.; keel w., purish at apex

Apr. 15 open hillside

Rio Blanco

- 21571 *Stellaria nemorum* H. lax. pet. w.
 2 *Thalictrum* H. 1-2'
 3 *Taraxacum* H. 1-2' bracts rich pur; florets
 4 comp. (none later) H. V. long. lit. y.
 5 *Tropaeolum tuberosum* H. V. fls. pith. w. to w.
 6 *Descurainia* H. 1-2' tub. long. lit. r., green at apex;
 7 *Polypodium* H. in crevices of sepals long. lit. r.; pet. o. y.; lined with pur.; fil. deep pur.
 8 *Pellaea* H. in crevices of rock
 9 *Epilobium* H. 1" pet. p.
 88 moss in crevices of rock
 1 hepatic on rocky soil
 2 *Lupinus argenteus* S. 2.5-4' standard light blue, yellow at
 3 *Saxifraga* H. center; wings light blue, darker at apex; keel w., pur. at apex
 4 *Calceolaria "obovata"* S. compact cor. y.
 5 *Calceolaria "uneata"* S. 2-3.5' compact. cor. y.
 6 *Medicago hispida* S. compact H. prostrate pet. y.
 7 *Geranium* H. fls. y.
 8 *Cuscuta* H. parasitic cor. pure w.
 9 grass H.
 90 grass H.
 1 *Bidens* H. ± woody, rays y, fls. y.
 2 *Marah* H. vine cor. gr.-w.
 3 *Taraxacum* H. fr. reddish-purp.
 4 Comp. S. 3-5' fls. y.
 5 grass H. Pap. wh.
 6 *Polypodium* H. matted sp. fls. purish
 7 Comp. H. low fr. gr.
 8 *Castilleja* H. Rays golden-y.
 9 grass H. uppermost br. lgs. purp., red dist.
 600 *Echeveria* H. succulent Infl. silvery wh.
 1 ? H. succ. forming mats
 2 *Sedum* H. succ. pet. y. wh.-wh.
 3 *Polypodium angustifolium* H. vine in rocky crevices
 4 *Cayophora* H. vine Pet. y.
 5 *Boragin* H. vine Pet. purish out, wh. in

Apr. 15 open hillside

Rio Blanco

21606

7	<i>Disyminchin</i>	H
8	<i>Bartsia</i>	S 6-1'
9	<i>Monnina</i>	S 4-6'
10	<i>Silene</i>	H ± 1'
1	<i>Gentiana scaberrima</i>	H
2	<i>Cheilanthes</i>	H caespit.
3	<i>Disyminchin</i>	H
4	<i>Juncoides</i>	H
5	grass	H
6	<i>Alousoa</i>	H
7	<i>Lamium</i>	H
8	<i>Epilobium</i>	H
9	<i>Verbena</i>	H forming mats
20	<i>Veronica peruviana</i>	H prostrate
1	<i>Monnina</i>	S 4-6'
2	Cornf.	H coarse, 3-4'
3	<i>Lobelia</i>	H coarse 2-3'
4	moss	On bank
5	<i>Loasa grandiflora</i>	H ± 3'
6	<i>Equisetum bogotense</i> HBK.	H
7	<i>Urtica</i>	H 1.5-2'
8	<i>Turnaria</i>	H lax
9	<i>Urtica</i>	H 1-2'
30	<i>Solanum</i>	H straggling
1	<i>Disyminchin</i>	H
2	grass	H caespitose
3	<i>Bartsia</i>	H shrubby
4	<i>Vicia</i>	H vine
5	<i>Trifolium amabile</i>	H prostrate matted
6	<i>Passiflora trifolia</i>	Vine & woody
7	<i>Euphorbia</i>	H 1.5-2'
8	<i>Echeandra</i>	H
9	<i>Loasa</i>	H
40	<i>Lillandsia</i>	H on rocks

Cor. pi.
~~fr. pinkish~~
 fr. only
 bright
 Cor. y.
 Pet. deep blue
 fr. gr. black-striated
 Pet. gr. w.
 Bright red, lvs. orange

Per. deep pi.

Cor. deep pi.

Cor. rich pi.

Pet. rich pi.

Cor. rich pi.

Cor. purplish blue

Pet. deep purp.

Ray y, petals greenish-y.

Cor. y, streaked with or. red.

Pet. or-pi., scales wh.,
 sacs pi.; pils. wh.,

Inf. green

Pet. pi., purplish at apex

Pls. gr. wh.

Cor. wh., pinkish at center

Per. reddish pink; anther y

Spikes silvery

Cor. bright y

St. & wings. One dist. wh. prox. leaf wh.

Pet. pi.

See notes

Heads greenish-y

Per. & pils. wh. anther, y.

Pet. or. red. scales white

Apr. 15 Open hillside

Rio Blanco

rocky crevices

edge of stream

16

21041	Bowlesia?	H.	Pet. w.
2	Calceolaria	S ± 3'	Cor. bright y.
3	grass	H	
4	Geranium	H spreading	pet. rich pi.
5	Crepis	H	Br. black; florets or. - y.
6	Salvia	H	Cor. deep blue, wh. per. w.
7	Comp.	T 15-20'	Ray bright y.; florets y.
8	Urticaceae	H caespit.	Per. wh.
9	Moss	On soil.	
50	Valeriana	H up to 1'	cor. greenish w.
1	Calceolaria acenifolia	H woody at base	pet. bright y.
2	Phacelia magellanica	H up to 1'	cor. p.; fil. grassy.
3	Lupinus pilosus	S 2.5-3'	standard bl.; wings bl.;
4	Calceolaria mollis	S 1-2.5'	keel w.
5	Mutisia viciaefolia	S 2-3' with scandent branches	cor. bright y.
6	Calceolaria	H ± 1' in scant soil	cor. pale y.
7	comp.	H at base of cliff	bracts y.; florets greenish w.
8	Saufliverea	H ± 2' branches much elongated	inflo. deep pur.
9	Eupatorium	S 2-3'	tr. green; cor. & sty. light p. to w.
60	Pitcairnia lanuginosa	H on rocky soil.	perianth deep pur.
1	Pitcairnia	H inflo. up to 4'	per. pink (wilted)
2	Cuscuta	H parasitic	cor. w.
3	Valeriana warburgii	H 1-2'	inflo. rich pur.
4	Allium	H 2-2.5'	flowers deep p.
5	Nadua	H ± 2' ± woody	bracts y.
6	Cardamine	H at base	pet. w.
7	Euphorbia	H repent	pet. greenish } in ditch
8	grass	H	
9	grass	H	
70	Galium	H repent	
1	Epilobium	H	pet. rich pur.
2	Alonsoa	H ± 2' woody at base	cor. o.; ant. bright y.
3	Stena	H ± 1' ± woody	cor. & sty. w.
4	Calceolaria grandiflora	S 2-4'	cor. bright y.
5	algae	H in water of ditch	

April 16 Open hillside

Rio Blanco

(Often planted)

21676	<i>Calceolaria</i>	S 2-4'	cor. bright y.
7	<i>Eupatorium</i>	S 2-4'	cor. & sty. w.
8	<i>Malvastrum</i>	S much-branched, coarse, H \pm 3'	pet. deep bl.
9	<i>Citharexylum</i>	S 3-4'	fr. br. o. when ripe.
80	comp.	H caespitose	
1	<i>Chilantus leudegeri</i>	H	
2	grass		on rocky soil.
3	<i>Nyctag.</i>	H coarse 4-5'	sepals w
4	<i>Cuscuta</i>	V Paras.	Cor. pure w
5	<i>Cardamine</i>	H	Pet. w
6	<i>Calceolaria "canensis"</i>	S 3-4'	Cor. bright y
7	<i>Calceolaria "pinnata"</i>	H	Cor y
8	<i>Lupinus</i>	H 1-1.5'	St. bl.; wing bl. less. paler; leaf w
9	grass	H	
90	grass	H	
1	<i>Salvia</i>	H \pm 1'	Cor tube w, lobes bright bl
2	<i>Pythopygon</i>	V \pm woody	Cor wh.
3	<i>Escalonia</i>		Bud only
4	<i>Stenanderson</i>	H	Pet. red, y-tipped at center within fil. light br., anther y
5	<i>Desymbrium</i>	H	Pet w
6	<i>Desymbridium</i>	H	Pet. y
7	grass	H	
8	<i>Oreocera "lanata"</i>	H 1-1.5'	Rays bright y, florets or-y, styles y; anther brown
9	Comp	S 1-2'	Rays y; florets green-y
700	<i>Cucurbitas</i>	H	Pet. w
1	<i>Asclepiad.</i>	V herb.	Cor. gr., reddish purp. at center in column pi, anther w.
2	<i>Parosela</i>	S up to 2.5'	Pet. deep blue
3	<i>Calceolaria</i>	S \pm 2'	Cor y
4	<i>Cajophora</i>	V herb	Pet. or-r.
5	Comp.	H to 1.5 ft.	Rays wh to bl-tipped; anther y
6	<i>Stachys</i>	H \pm matted	Cor. pi
7	<i>Asplenium</i>	H	Crevice of rocks
8	<i>Amarantus</i>	H prostrate	Heads w
9	<i>Urtica</i>	H 1-1.5'	Fls. whitish
10	<i>Loasa</i>	H 1-2'	Pet. light r., scales green; sacs light red

Apr. 16 open hillides

Rio Blanco.

- 21711 *Calceolaria* H 1-2', ± woody below
 2 *Cardamine* H
 3 *Mimulus* H prostrate
 4 *Solanum* H 1.5-2.5'
 5 *Veronica* H ± prostrate
 6 Moss on bank
 7 Moss on bank
 8 *Calceolaria* S ± 3 ft
 9 *Astragalus* S prostrate
 20 *Baccharis* S forming close mats
 1 grass H
 2 *Brassica* H
 3 *Solanum* H 6"-1'
 4 *Lupinus* S 3-4'
 5 *Phacelia negellamiae* H to 1.5'
 6 *Pomarea* H 3-5'; stem wandlike
 7 *Lupinus* S 3-4'
 8 *Cappiflora* H vine
 9 *Oxalis* H prostrate
 30 *Alga* in pool
 1 *Calceolaria* H elongate branch
 2 *Baccharis* S 3-7'
 3 *Sisyrinchium* H
 4 *Mammillaria* H
 5 *Plagiobolus* H
 6 *Calceolaria "multiflora"* S 2-4'
 7 *Halimolobos* H
 8 *Senecio* H with ± prostrate
 9 *Astragalus* S branches
 40 moss on rocky soil
 1 Comp. H
 2 *Piperonia* H in crevices of rocks
 3 *Mammillaria* H on rocky slope
 4 *Valeriana* H 2-2.5'
 5 *Polylepis* T. 12-15'

Cor. light y
 Pet. w (wet ground)
 Cor. y
 Cor. lilac; anth. y
 Cor. pi., w prop
 Cor. light y
 Pet. wh., pink-tinged
 Infl. (young) greenish
 Pet. bright y
 Cor. deep pink blue; anth. y
 St. wings bl., bud bl., y
 Cor. pi.
 Fls. wilted
 Coloring as #21724
 Pet. y; scales y, fil. wh.;
 Pet. y
 Cor. y, red-spotted within
 Pappus whitish
 Per. deep pi.
 Cor. w
 Cor. y.
 Cor. yish-g.
 cor. w. yish-g. prox. purple-
 striped towards one margin
 Pet. cream w.
 br. g. pur. at apex
 florets grayish y.
 cor. cream w.; stem r.

Apr. 16 Open hillsides

Rio Blanco

rocky bank
 St. blue, y. center within, wings bl., bud pi. purple at tip

55-16 Photo

- 21746 *Sambucus* (cultivated) 30-40' cor. var. w.
 7 *Baccharis* 1.5-2' fls. w.; ant. gray y.
 8 *Malvastrum* ~~coarse, 2-3'~~ pet. p.
 9 *Lythrum* 4-5' fr. gray y. (immature)
 50 *Senecio* 1-2' fls. golden y.
 1 *Solanum* 3-5' fr. g. (immature)
 2 *Solanum* 2-5' branches cor. lavender, ant. y.
 3 *Thalictrum* 2-4' S. much elongated
 4 *Verbena* H. prostrate, forming cor. black, pur.
 5 *Cajuputa* H. erect, pet. & scales y.; ant. g.
 6 algae growing as stone in running water
 7 *Solanum* 2-4' cor. bl.; ant. w.
 8 *Solanum* lax fr. g. (immature)
 9 *Oenothera* 1-1.5' woody pet. o.r.; ant. y.
 60 *Salvia* 1-2' at base cor. bl.-pale pur.
 1 *Lythrum* H. ~~erect~~ pet. w.
 2 *Gentiana* H. in marshes for. w., p. tinged
 3 *Isotria* H. soil completely submerged
 4 algae in pool - very young
 5 *Myriophyllum* floating in quiet water of pool
 6 *Bidens* 1-2' rays br. y.; fls. gray y.;
 7 grass ant. black.
 8 *Stenia* 1-2' br. g. present at cor. tube pur.
 9 *Solanum* stems lax, pet. w. lobes w., p. tinged; sty. w.
 70 *Oenothera tarqueensis* 1-2' l. pet. o.r.
 1 grass
 2 *Gentiana* H. cor. w. streaked with deep p. at
 3 *Hydrocotyle* H. in marshes middle and on one side of apex
 4 *Tropaeolum* "pajaro" H. ~~detritus~~ flowers y., pet. r.-spotted pur. in.
 5 *Schinus molle* H. V. ~~detritus~~ fr. pink
 6 *Soralia* S. 2-5' stem + whip pale bl.; keel w.,
 7 *apoc.* S. pur. at apex.
 8 *Allionia* H. V. fr. only.
 9 *Malvastrum* H. lax, viscons cor. pink. bl.
 80 *Leconia* H. in elongated pet. pink pur., w. at base
 1. 15-20' ant. y. cor. li. y. faintly striped
 with o. within.

Apr. 16 Open hillside

Rio Blanco

17

Photo
S 5-21

on dry soil
 on moist bank
 20 in moist ditches
 shrubby hillside
 open hillside

Empalme

Tanna

- 21781 *Urtica*
 2 *Malache*
 3 *Liabum*
 4 *Ruta graveolens*
 5 *Tillandsia usneifolia*
 6 *Bystropogon*
 7 *Solanum*
 8 grass
 9 *Salvia*
 90 *Parosela*
 1 *Solanum*
 2 comp.
 3 *Eragrostis*
 4 *Attemanthera*
 5 *Liabum*
 6 *Cheilanthes lundbergii*
 7 *Echeandria*
 8 *Gaya (?)*
 9 *Arctophyllum*
 800 *Sporobolus*
 1 *Sisyrinchium*
 2 grass
 3 *Tillandsia*
 4 *Salvia*
 5 *Galinsoga*
 6 *Pitcairnia*
 7 *Cheilanthes*
 8 *Notholaena baranensis*
 9 *Notholaena*
 10 *Polycarpha*
 1 *Cassia*
 2 *Pityrogramma*
 3 *Oxalis*
 4 *Commelina*
 5 *Boussingaultia*

- H
 H_{1-2'} pet. pale p.
 H_{1-2'} ray & florets y.
 H coarse, pet. y.
 E.H. on dead
 W.V. ting cor. w.
 S. 3-6' cor. w., ant. y.
 H 3-4'
 S 1.5-2' cor. br. o. r.
 H ± woody stem. w.; unis. and keel not per.
 H branches elongate
 S 2-4' cor. pale bl.; ant. y.
 S 3-4' rays & florets y.
 S leaves very viscid
 H semi- made deep p.
 H prostrate 1.5-2' woody rays & florets br. y.
 H at base
 H in rocky crevices
 H 2-3' per. + fil. w.; ant. y.
 H ± woody pet. o. y.
 S 1-2' cor. w.
 H U. cor. w. procr., pist. pur. dist.
 H
 H in crevices of rocks
 H 1' cor. tube w., lobes bl.
 H 1' ray w., florets y.
 H terminal per. grass g.; fil. wh.
 H with gr., styles & stigmas green
 H
 H in dense
 H clumps
 S in low, 2' high, branches spreading
 H
 H pet. y.
 H ± 2' per. dark. bl.
 H
 H U. ends pur.; pet w., ligulines

Apr. 20 open hillside

Tanna

- 21816 *Ephedra*
 7 *Pellaea tenuata*
 8 *Lodonea*
 9 *Cyperus*
 20 *Eupatorium*
 1 *Cyperus*
 2 grass
 3 *Bidens*
 4 *Ippursea*
 5 *Serardia*
 6 *Parosela*
 7 *Cuscuta*
 8 *Guaphalium*
 9 *Eupatorium*
 30 *Alternanthera*
 1 *Caryoph.*
 2 *Polypodium*
 3 *Eupatorium*
 4 *Salvia saturaria*
 5 *Allionia*
 6 *Oxalis*
 7 *Salvia*
 8 *Salvia*
 9 *Iris*
 40 grass
 1 *Bidens*
 2 *Stenandrium*
 3 *Cuscuta*
 4 *Guaphalium*
 5 *Alternanthera*
 6 *Mutisia*
 7 *Echeveria*
 8 *Sedum?*
 9 *Solanaceae*
 50 ?

- S. 1-3' scales g., y. at margin;
 ant. w.
 H. 2-4' in clefts fr. g., tinged with pur.
 S. of bare rock
 H. in clefts of
 bare rock
 S. 2-3' buds green.
 H. in clefts of
 bare rock
 3-5'
 H. straggling, rays y. florets y.
 S. 2-4' cor. p. prox., pur. dist.
 H. U. woody at base cor. p. without, w. within
 H. 1-2' low, star. w., deep. pur. at lower
 margin; unripe & keel deep pur.
 S. compact cor. rich. pur.; ant. y.
 U. pinnatifid
 H. ± 1', woody buds silvery y.
 H. below tube
 S. 2-4' cor. g., lobes green. w.; sty. w.
 H. matted
 H.
 H. up to 1' cor. & sty. w.
 S. 2-4' cor. pinkish - or.
 H. to 3 ft. Pet. w., pinkish dist.
 H. succulent Pet. y.
 S. 1-2' bright or. - red; pubescent
 Cor. w. at base, or cor. y.
 S. 1-1.5' Cor. pi., wh. at base
 H. 1.5-2' Per. bright y, purple-shaded
 H.
 H. Rays y; cor. tube gr.-y, lobes y
 *H cor. pi.
 H par. Cor. green y
 H ± 1.5 ft. Heads ~~gr.~~ gr.-w.
 H matted Heads w.
 S. scandent bush Rays bright y
 H succ. Pet. or.-red
 H matted Pet. or.
 S. pinnate Fr. gr.-y.
 S. low 1-6' fls. rich pi.

Apr. 20 Open hillside

Tarma

within proc.

21851 grass

2 *Caesalpinia*3 *Bidens*4 *Allionia*5 *Verbena*6 *Opuntia*

7 grass

8 *Cuscuta*9 *Aloussa*10 *Alternanthera ficoidea*1 *Eupatorium*2 *Solanum*3 *Agave*4 *Rumex*5 *Calceolaria*6 *Bascharia*7 *Veronica*8 *Passiflora molissiana* "tendrils"9 *Marrubium vulgare*10 *Eucalyptus globulus*1 *Solanum*

2 lichen

3 lichen

4 lichen

5 lichen

6 lichen

7 moss

8 *Convolvulus*9 *Brodiaea*10 *Atriplex*1 *Solanum pinnatum*2 *Conium*3 *Oenothera "chilensis"*

4 comp.

5 *Poggenhoffia*

H

Tree 20-25' or
smaller at first at

H to 2'

H prot. branches

H prot. branches

Succ. up to

H

H parasitic

H up to 8'

S + 4 ft.

S with elong.

2-3' br.

H flowering stem

H up to 2.5'

H up to 2.5'

H weak branches

H 1-1.5'

S ± 3'

H with decumbent

H br.

V ± woody

H up to 3'

T up to 100 ft

H about 20 ft

H viscous

as dry rocks

on rocky soil

on dry rocks

on dry bank

" " "

an moist bank

H. U.

H coarse

H 1-2'

H 2-5'

H branches

S. herbaceous, 3-4' l.

S 2-3'

U. ± woody

Pet. y

Recept. y; florets gr.-y

Pet. blunt - purpl.

Cor. light blue

Pet. orange - r.

Cor. gr.-wh.

Cor. o. r., anthers y

Cor. tub. greenish, lobes & style

wh

Cor. pale bl., anthers y

Per. y-g; pet. greenish

anthers y

Fl. greenish

Cor. pale y.

Infl. gr.-w.

Cor. light blue

See notes

Cor. wh.

Pr. only

Cor. wh., anthers y.

cor. light p. to w.

per. w., g. tinged prox.

cor. w., p. tinged without;

anthers y; fr. g.

pet. deep p., pale prox.

rays y; cor. o. y; anthers dark gray

see notes

Apr. 20 Open hillside

Tarma

Photo S6-3

along shaded stream bank

Lvs up to 2.5' l., 1/2' w.

A54

Photo S6-6

planted along roads

O.h.

along shaded stream bank

21 thickets

in moist ditches

Tarma

open hillside

S6-5 Photo

- 21886 *Cassia* T 12-15'
 7 *Opuntia* ["tuna"] 3-4' h.
 8 *Cary.* S 2-4'
 9 *Opuntia* H 5-1.5' I woody
 90 *Spartium junceum* "tuna" S 3-6'
 1 *Salvia* S 1-2'
 2 *Buddleia* T 10-15'
 3 *Cary.* S 2-4' with
 4 *Adesmia* H elongate leav.
 5 *Alamosa* S 2-3'
 6 *Argemone mexicana* L. H 1-2'
 7 *Pomus copulin* T 30-50'
 8 *Eleagnus* T 30-40'
 9 *Polylophos* T 20-30'
 900 *Oxalis* H
 1 *Salicornia aserine* H V.
 2 *Sarache* H with elon-
 3 *Calceolana* H gate leav.
 4 *Ranunculus* H
 5 *Cuscuta* V. parasitic
 6 *Luffa* H V.
 7 *Chenopodium* H 1-2'
 8 *Lycopodium* H
 9 *Cuscuta* V. parasitic
 10 *Eugenia (?)* T 20-30'
 1 *Cary.* H 3-4' woody
 2 *Solanum* H bilob.
 3 *Tropaeolum* S 2-4' leav.
 4 *Snaphalium* H herbaceous
 5 *umbel.* H V.
 6 *grass?* H 2-3.5'
 7 *Oxalis* H 2-3'
 8 *Soralia* H 4-5'
 9 *...* S
 20 *Tournefortia* "Rauco" S ± 8'

pet. + ant. y.
 pet. o.r.; sta. light y.
 rays y.; cor. + sty. greenish y.
 pet. red p.; fil. w.; cutg.
 pet. br. y.; fil. pale y.; ant.
 cor. br. o.r. with golden pubescence
 without
 cor. o.y.
 rays br. y.; ~~sta.~~ cor. tube
 greenish y.; lobes y.
 pet. y.; sta. red-streaked.
 cor. pale pink o.; ant. y.
 pet. pale y.; ant. br. y.
 pet. w.; fr. r. when ripe
 pet. greenish w.
 pet. y., faintly r.-striped in.
 cor. light y., r.-blotched at base
 ant. deep p.
 cor. pale y.
 pet. and ant. br. y.
 cor. w., sometimes g.-tinged
 cor. y.
 sep. deep p.
 cor. w., tinged w. pur.
 pet. + sta. fil. w.; ant. g.
 rays br. y.; ~~sta.~~ cor. tube
 greenish y.; lobes g.; ant. purish.
 cor. pale bl., ant. y.
 sep. + pet. br. r.
 heads always y.
 pet. w.
 growing submerged in
 flowing water
 pet. y. r.-striped prox.
 bracts purish
 pet. bluish pur.
 cor. tube green out o.in, limb
 w

Apr. 21 open hillside

Tanua

Photo
 56-7
 Photo
 56-8, 56-11

KA-58 Photo

along stream

Oct. "
 open hillside
 22 In patio

- 21921 Ipomoea V herb Cor pinkish-purple, pale prox.
 2 moss On rocky soil
 3 leaf. " " "
 4 Plumbago coerulea H lax br. Cor. tube purple, lobes bright blue
 5 Verbena H erect, up to 3' Cor. pinkish-w.
 6 Amaranthus H coarse 2-2.5' Sep. deep pi., anthers gr.
 7 Nicotiana glauca H 3' tube y-gr., lobes green-gr.
 8 Salvia H woody, below 2' Cor. pi., with pink hairs
 9 grass H
 30 grass H
 1 grass H
 2 grass H
 3 Valeriana H to 2' St. reddish br.; cor. cream wh.
 4 lichen On rocky beach
 5 Euphorbia H Fl. y-g.
 6 Alternanthera H with lax br. Sep. deep purple
 7 Parosela S \pm 2' St. gr.-wh, deep f. at margin
 8 Passiflora pruinatistipula V \pm woody See notes at base; w. o. b. deep blue
 9 Cucurbita V herb. Cor. wh.
 40 Tillandsia H on rocks
 1 Salvia H 1.5-2', woody Cor. bright red, pink pi., anthers g.
 2 Passiflora mollissima "tumbo" V \pm woody M. green
 3 Passiflora obtusiloba V herb. See notes
 4 Salix T 40-60'
 5 Werneria H caesp.
 6 Psoralea S 3-5' Ray w, pink at base; florets y
 7 Passiflora tiliaefolia? S 3-5' Pet. bl. dist., wh. prox.
 8 Juncoides H Tu (only) or-gr.
 9 Motrotriche H caespitose pet. pale pur., white prox.
 50 Agrostis H forming fil. g.; anthers y.
 1 grass H
 2 Gnaphalium H densely br. pink pur.; pap. w.
 3 Cerastium H densely sep. yish-g.
 4 Comp. H densely florets pink-w.; pap. w.
 5 Arctostaphylos umbellata H densely Cor. w., sometimes p.-tinged

Apr. 22 Open hillsides.

Jama

Thickets
Open hillsides

~~Shrub at base of~~
Thickets Thicket

Along stream

Open hillsides
market

24 puma between Tanua + Janja

Photo
25-25

+4500m

- 21456 *Bartia* H caespitose cor. br. y.
 7 *Plantago* H in dense cor. w.
 8 comp. H mats rays w.; florets gray
 9 sax. H in dense cor. tube greenish w., lobes pur. ant. y.
 60 *Centrania* H mats sup. pale y., pet. w., pinkish
 1 *Werneria flava* H in dense cor. pink.
 2 *Guaphalium* H mats rays br. y., sep. w., cor. tube
 3 *Bromus (?)* H white to y., lobes y.; sty. y.
 4 *Sisyrinchium* H cor. pinkish pur.
 5 *Hypocinch* H per. y.
 6 *Centrania* H pet. y.
 7 *Calceolaria uniflora* H cor. without pink dist. greenish
 8 *Geranium "argenteum"* H caespitose red-pur. on one side; within
 9 *Werneria alba* H cor. y., lower lip r.-spotted m.
 70 *Ribbunium* H fr. g.
 1 *Geranium "palustre"* H caespitose pet. w., p. striped
 2 *Trifolium* H caespitose pet. light p.
 3 *Castilleja* H bracts w. or greenish prox., r. dist
 4 *Plantago* H cor. deep p.
 5 *Senecio* H much-branched rays br. y.; fl. greenish y.
 6 *Hebecladys* S 5-7' woody at base cor. deep blue.
 7 *Monnina* S + 3' ant. wh. to y.
 8 *Alaucoa* H woody pet. br. bl.
 9 *Calceolaria "virgata"* S below cor. o.r., ant. y.
 80 *Calceolaria "crenata"* S with append. cor. y.
 1 *Cucurbita* S branches 2-4' cor. y.
 2 *Salvia* H U. cor. w.
 3 *Cassia* H 1-2.5' cor. deep bl.
 4 *Cuscuta* S 1-6' pet. y.
 5 *Calceolaria* S P. cor. pink. w.
 6 *Eriochloa* H succ. cor. br. y.
 7 *Bromus* H sub-erect cor. y.
 8 *Calceolaria "parula"* H in dense rays w.; florets greenish y.;
 9 *Engeran* H mats cor. tube greenish w.; lobes & sty.
 90 *Eupatorium* S 3-6' lavender to light p.

Apr. 24 puma between Tanna + Gauja

+4500'

y. prox. striped with
 same, stripes fainter

25 ~~thicket~~ ^{rocky} along stream bed Ocopa

Photo
 56-28
 Photo
 56-27

Photo
 56-29

21991 Cardamine

2 moss.

3 Eupatorium

4 Texana

5 Juncus

6 alga

7 Salvinia

8 Epilobium

9 grass

22000 Paspalum

1 moss

2 Solanum

3 grass

4 Oxalis

5 Phytolacca

6 moss.

7 Soralia

8 Alnus [aliso]

9 Salvia seggitifolia

10 Cautia luyifolia

1 Passiflora mollissima

2 Passiflora pinnatifida

3 ~~Lupinus~~ cactus tallhua

4 Lupinus (cultivated)

5 Salvia

6 Rosaceae?

7 Alternanthera

8 Convolvulus

9 Andropogon

20 grass

1 grass

2 Arctostaphylos

3 Manisotys

4 grass

5 Bouteloua

H₂ ^{cut pro-} ~~canthant~~

on dry soil

S 2-4'

S 2-4'

H

growing on rocky in swift

flowing stream cor. bluish p.

H₂ U. matted

H 1-2'

H

H

H

on moist bank

S 3-5' with

S erect br.

H succ.

H

on dry bank

S 5-7'

T 20-40'

H 3-5' very

H viscosus

S 4-60'

W. U.

W. U.

H

H ± 3'

H ± 1-1.5'

H ± 1-1.5'

H ± 5-1.5'

H matted

H

H

H

H

H

H

H

H

H

H

H

pet. w.

tube cor. greenish w.; lobes &

br. brown, pale at margin;

fl. w.

pet. p., deeper dist.

cor. lavender; ant. y.

pet. y.

sep. deep p.

pet. fl.; paler prox.

cor. & ant. br. bl.; fil. paler.

cor. tube br. r. lobes trip. with

sty. w. prox. dist. & stig. deep pur.

pur.; cor. tube silvery with this

fil. r., ant. blackish

standard bluish p. v. at center;

wings deep bl.; keel w.

Cor. ter. r.

Sep. deep pi.; pet. paler.

heads gr.-w

Cor. wh. & y-g. prox.

Cor. wh., gr. at base

Gr. 25 along rocky stream bed,

Ocopa.

thickets

24 puma between Tanna & Janja

25 San Gerónimo

26 Pilcomayo, near Huancayo

Photo
56-30Photo
56-31
Photo
56-32
Photo
56-33A 1-1
T 4000 m.

A 62 - Photo

T 3300 m.

- 22026 9. *Pomoea* V Cor. rich pi., po. - mm
 7 *Anthericum* H Per. y
 8 *Parosela* H^L, branches Pet. blue
 9 moss On soil
 30 *Colletia* S 2-3' very fr. gr.
 1 *Baccharis* S matted pappus wh.
 2 *Gentiana* H Cor. wh., 5-7 prox. purple
 3 *Ephedra* Plant matted on ground Pr. light red.
 4 *Paspiflora pinnatifida* V woody Sep. pi.
 5 *Solanum* S to 2', much fr. .., rays lavender
 6 moss Dry bank Cor. pi. with blue; anther y
 7 *Potamogeton* Herb. floating bank
 8 *Plantago* H Cor. pi.
 9 *Polystichum* H
 40 *Hieracium* H br. br. r.; rays & fl. y.
 1 *Caryoph.* H forming fls. greenish w.
 2 *Astragalus* H matted stem. bl. prox. paler dist.;
 3 *Loeba* H forming unisp. bl.; keel deep bl.
 4 *Bromus* H compact masses
 5 *Bartea* H cor. pink. bl.
 6 *Gentiana* H cor. tube pink. gr. without, w. in;
 7 *Loasa* H 1-2' in shade lobes br. bl.
 8 *Gentiana* H of rocks set, scales, & fl. o.c.; ant. pink.
 9 *Gentiana* H cor. tube pinkish w. ant. w. in;
 50 *Fistichia* H lobes rich p., fil. w. ant. y., pro- til pinkish y.
 1 *Valeriana "filicina"* H cor. tube yellow. but, pinkish w. in, - slaty blue in.
 2 grass H forming dense lobes deep pink on one side ant.,
 3 *Elaphoglossum* H in shade of cor. pinkish w.
 4 moss H in shade of rocks anthers w.
 5 moss on moist soil
 6 lichen in tufts on rocks
 7 alga on turgis
 8 *Asplenium* in standing water, shallow pools
 9 *Cerastium "lanuginosa"* H in shade of rocks
 60 *Arcytophyllum* H matted cor. w.

Apr 26 Open rocky hillsides, Pileamayo, ^{3300 m.} near Huancayo

on one side without

Fluents
~~edge of water~~
 open rock hillside

In stream

Dry & wet banks

27 ~~pink, at the base of~~ Mt. La Justay, near Huancayo

22096 *Bromus*

7 grass

8 grass

9 *Werneria*100 *Calceolaria*1 *Gentiana*2 *Galium*3 *Gentiana*

4 comp.

5 *Craba*

6 comp. (?)

7 *Frankenia* (?)8 *Barbisia*9 *Gnaphalium*10 *Lupinus*1 *Senecio*

2 lichen

3 *Alchemilla*4 *Lycopodium*

5 comp.

6 *Werneria*

7 grass

8 *Urtica flabellata*9 *Nototricho*20 *Werneria*1 *Gentiana*2 *Cactus*3 *Astragalus*4 *Verbena*5 *Thalictrum*6 *Calceolaria*7 *Polystichum*8 *Valeriana*9 *Polypodium*30 *Saxifraga*

H

H

H

H

H

H

H matted

H capitata

H

H matted

H forming dense

H mats

H forming dense

H mats

H

H suffrutescent

on rocky soil

H forming

H mats

H in shade of

H rocks

H forming

H mats

H

H

H

H in clumps

H to 1'

H matted

H to 3'

H to 5'

H to 5'

H to 1.5'

H + dependent

H cesp.

rays black p., florets: tubes w.,
lobes p.-tinged, sty. deep pur.
cor. lobes, r-dotted at base in
cor. tube green w., lobes pale p.

cor. y, striped with O.r. on one
side without.
florets green y., buds y.

cor. br. y.

uplo. green w.

stan. w., wings & keel pur.,
w. at base
florets y.

ray w., sty. y.

Rays y; florets gr. y.

Cor. w., y.-tinged prox.

Pet. pinkish-pink., st. stripes
with deep pink-prox.

Cor. rich purpl.

Fr. only

Cor. bright y

Cor. w.

Pet. w

Apr. 27 p.m., Mt. La Juntay, near Huancayo.

Open hillsides

Ucayales Valley, near Huancayo

A-71 Pl. 15

Rocky open bank

- 22131 Comp. H up to 2' + woody
 2 Cerastium H Low
 3 Calceolaria H ± woody below
 4 Cerastium H elongate lax
 5 Chuquiragua S much branched up to 4'
 6 Lupinus H ± woody below
 7 Bromelia H ter. Basal lvs. scarcely larger than in species
 8 Bartsia H slender erect branches
 9 Lupinus H to 2.5'
 40 Salvia H to 3'
 1 Alousoa H ± woody to 2.5'
 2 Verbena H
 3 Calceolaria viscosa S 1-2.5'
 4 Calceolaria cordata S 1-4'
 5 Linum H ± woody at base
 6 Reibumium V. matted
 7 Bystropogon "matta" S up to 4'
 8 Eupatorium "chillca" S 3-5', leaves used to wax violin bows.
 9 comp(?) "lengua de perro" H leaves used on one side to soften wound, on other side to dry out wound.
 50 Eupatorium "maruquilla" S ± 3' used in cooking for flavoring.
 1 Gentiana H cor. tube yellow, g. ant. greenish w.
 2 Monarda H lobes p. to purple.
 3 Calceolaria H low cor. y.
 4 Eupatorium S 3-5' cor. greenish w.; lobes & sty. deep p.
 5 Satureia S much-branched cor. light r.
 6 Astragalus S up to 3' 1-1.5' ± woody at base
 7 Asplenium H in crevices of bare rock
 8 Stena H
 9 Ipomoea H V. copiose
 40 comp. H up to 5' in crevices of bare rock
 1 Pityrogramma H }
 2 Pellaea H }
 3 Eupatorium S 3-5' sty. w.
 4 Calceolaria S up to 1' I cor. br. y.
 5 Calceolaria H woody below cor. br. y.
 H ± 6" on bare rock

Florals purplish (withered)

Pet. wh

Cor. y.

Pet. wh.

Bracts red to or-red.

St. purplish blue, wh. hairs

in; w. o. k. -

scarcely larger than in species

Cor. bright y.

St. purplish blue, y at anther

wings pink, base black, deep

Cor. deep bl.

Cor. or-r.

Cor. deep bl.

Cor. bright y.; fl. very viscosa

Cor. bright y.; stems purplish

Pet. y.

Cor. greenish w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Cor. w.

Apr 27 Open rocky banks, Acapaleo Valley, near Huancayo

Open hillsides

Open rocky banks

Open hillsides

purple apex

Pilcomayo

29 rocky hillsides. bet. Viquez & Ingakurasi ± 3150 m.
 Montano Cañon, south of Huancayo

- 22166 *Guaphalium* H woody at base, in infl. greenish w.
 7 *Pteris* H crevices of bare rock
 8 *Alonsoa* H in crevices of bare rock cor. o.r.; ant. br. y.
 9 *Alternanthera* H woody at base, with infl. deep pur.
 10 *Asplenium* aff. *praecursum* H tangled branches
 1 *Isopappus* S up to 2' bracts black; rays & florets y.
 2 *Baccharis* S up to 3', with florets greenish
 3 *Phrygilanthus* S compact crown cor. yellowish g., lobes r.; ant. & stig. y.
 4 *Salicaria* S 1-2' cor. dull p. without, y. within, p. spotted
 5 *Monarda* S 5-7' pet. deep bl.
 6 *Citharoxylon* S much branched, cor. tube greenish w., lobes pinkish w.
 7 *Passiflora gracilis* S up to 5' calyx tube p., gr. prox. out., bluish g. in.;
 8 *Passiflora tripartita* V. I woody. sep. & pet. p.; operc. w.
 9 *Eupatorium* W.V. cor. tube greenish w., lobes & sty. p.
 80 *Phacelia* S $\pm 4'$
 1 *Citrus* H 1-2' woody
 2 ? T 10-12' fls. wh., fr. ± 7 in. diam.
 3 *Berberis* S $\pm 6'$ Cor. cream w., anthers y
 4 *Valeriana* S 4-7', along fr. bl.
 5 *Cajophora* H up to 6' Cor. gr. w
 6 *Puccinellium* V N Pet. red; scales y-g
 7 *Ranunculus* S 10-12' reddish pink, green tinge
 8 *Escallonia* S 8-12' Cor. & mottled out.
 9 *Calceolaria* T $\pm 15'$ fls. deep pi.
 10 *Werneria* H \pm woody fr. only
 1 *Comp.* H 1-2' Cor. y
 2 *Guaphalium* H low flat on ground infl. y
 3 *Leptocarpus* H low flat on ground infl. y
 4 *Comp.* H \pm woody, forming small tufts infl. gr. - w.
 5 *Agrostis* N Cor. w, gr. tinged & striped out, purp. - dotted in
 6 *Bidens* N Ray w, florets gr. - y.
 7 *Nototrichum* H forming dense clump Ray bright y., fl. gr. - y
 8 *Crastium* N Pet. pi. bl.
 9 *Comp.* N Infl. gr. wh
 200 *Lepidium* N Ray w, fl. gr. - y
 H fr. only

Apr. 29 Open rocky hillside between Uqias & Higabhuasi Montano Canon, south of Huancayo ± 3150 m.

thickets

30

May 1 Cultivated
 2 Thickets

3

Open hillsides
 Puna

in Montano valley, below La Melchorada ± 2500 m.
 Auco

Huanta ± 2800 m.
 Between Huanta & Hac. Ayucacha ± 3000 m.

± 3700 m. Hacienda Ayucacha
 11-7 Ph. 15 (with 23313)

Photo
 59-24

± 4150 m. Hac. Ayucacha - Pañgora

22201	Scrophularia <i>Scrophularia</i>	H	Per. y
2	<i>Oenothera</i>	H	Pet. y
3	<i>Scirpus</i>	H	
4	<i>Stenorhynchus</i>	H	Per. y-g, purpl. tinged
5	<i>Saxifraga</i>	H	Pet. wh.
6	<i>Plantago</i>	H forming dense firm mats	Cor. gr. w, pink w., with g.
7	<i>Gnaphalium</i>	H	infl. purplish
8	<i>Gentiana</i>	H	Cor. wh., pink-tinged
9	<i>Scrophularia</i>	H	Per. blue
10	<i>Calceolaria</i>	H low	Cor. y
1	<i>Acaena</i>	S matted, stem repent	fl. only
2	<i>Fagelia</i>	H	infl. gr. y.
3	<i>Geranium</i>	H woody, rootstock elong. br.	along. br.; pet. pi-w.
4	<i>Geranium</i>	H elong. br.	Pet. pure wh.
5	<i>Paspalum</i>	H	
6	<i>Chia</i>	H in small clumps	
7	<i>Lobelia</i>	H	Cor. bright bl.
8	<i>Lichen</i>		
9	<i>Parurela</i>	H on rocky bank	
20	<i>Tridax</i>	H woody, at base, br. elong. to 3' in dense clumps	Pet. deep bl.
1	<i>Gentiana</i>	H	Per. wh.
2	<i>Calceolaria</i>	H + woody up to 1.5'	Cor. slaty-bl.
3	<i>Cuphea</i>	H + woody	Cor. light y
4	<i>Alchemilla</i>	H repent	1 pet. pi., other bl. tinged?
5	<i>Oxalis</i>	H succ.	infl. greenish.
6	<i>Chilanthus</i>	H	pet. y.
7	<i>Selaginella</i>	H in shaded rock	
8	moss	on boulders	
9	<i>Hepatic</i>		
20	<i>Hypocissus</i>	H + woody	pet. y.
1	<i>Comp</i>	H up to 2'	ray br. x. florets greenish
2	<i>Stena</i>	S.	leaves used to make tea
3	<i>Lupinus</i>	H	cor. tube, lobes sl. w.
4	<i>Chilanthus mynophyllum</i>	H	pet. blue, p.-ting.
5	<i>Lycopodium</i>	H	

May 3 Puna

± 4150 m *Mac. Cuscuta* *Pangora*

wet soil

4 Open hillside
Puna

± 4000

± 4530 m.

± 4200

Open hillside

5

± 3900

± 3200

Pampa *Pampa*

- 22336 lichen on rocky banks
 7 lichen
 8 Gentiana H cor. ^{to pink.} ~~white~~ - striped on one side without.
 9 Cordia cylindrostachya S 5-8' much-branched cor. pink y.; summit at anag.
 40 Alnus H 2-3' woody at base cor. o.r.; ant. y.
 1 Bythopogon H 2-3' cor. w.
 2 grass H $\pm 3'$
 3 Solanum H $\pm 3'$ cor. pale violet; ant. y.
 4 Heliotropium peruvianum S 2-5' cor. pink. blue.
 5 Salvia H $\pm 2\frac{1}{2}'$ cor. deep. blue
 6 Gentiana H 7-9' with S. elong. bran. ~~cor. pale violet~~ cor. tube whitish, lobes pale violet.
 7 comp. H 1-2' rays y.; florets pink y.
 8 Siegesbeckia H 1-2' infl. pink y.
 9 Calceolaria S 4-6' cor. light y.
 50 Eupatorium S 3-6' pappus pink. w.
 1 Calceolaria S 2-4' cor. br. y.
 2 Alnus S 2-4' cor. o.r.
 3 Stachys H 2-4' cor. p.
 4 Polystichum H succ.
 5 Oxalis H
 6 Notholaena Boliviana H weak cor. y.
 7 Calceolaria H sub-erect
 8 Lemnium H
 9 grass H lax, sub-erect - pet. pink. w.
 40 Bonania H subcaudant
 1 Galium H 1-3' woody cor. deep pink p.; lower-lip g.
 2 Stachys H at base at apex
 3 Polypodium H in crevices of rocks
 4 Peperomia H subcaudant pet. blue to deep blue
 5 Miconia H
 6 lichen on sandy soil
 7 Ribes H matted
 8 Polyanthus H coarse, 4-7' rays y.; florets pink y.
 9 Tomelionia S 6-8' branched at base cor. pink. ant, lobes w. in.
 70 Peperomia H ter.

May 5 open hillside

± 3200 m. ~~Pampa~~ Pampalea(Pampalea ~~Jangle~~)

± 3000 m.

Carrapa

- 22271 *Synopteris* H. up to 4' pet. l. purple, ant. w. to y.
 2 *Brachyotum* S. common at this alt. cor. w. to pale p. prox.; deep
 3 *Crocodolus* H. V. f. dist.
 4 *Lichen* on rocky soil
 5 *Solanum* S. 5-7 cor cream w.; ant y.
 6 *Paspalum* H.
 7 *Oxalis* H.
 8 *Dystrogon* S. with elong. bran. cor. pale p. int, bl.-
 9 *Eupatorium* S. 4-6' ting. in.
 80 *Fuchsia* S. 5-7, with cor. tube girth w.; lobes bl. to
 1 *Lupinus* (cultivated) S. depend. bran. pur., pappus cream; sty. bl.; paler
 2 *Claphoglossum* H. thready at cor. r.p. int, which in; fil. w;
 3 *grass* H. base, 2-3' ant. brown.
 4 *Claph.* H. base, 2-3' stan. br. bl. at margin at center;
 5 *Rubus* H. w. w. br. bl.; keel w, green dist.
 6 *Phoradendron* H.
 7 *Crotan* H.
 8 *Stenia* S. with elong. pet. p. pale prox.; fil. w.; ant. y.
 9 *comp.* S. bran. leaves y. g.
 40 *Malaxis* S. *parvifolia* or a
 1 *Gaultheria* S. *Cavendishia* pet. w.
 2 *Escallonia* S. small T. cor. tube pur., girth prox, lobes
 3 *Lycopodium* H. 2-2.5' sty. w.
 4 *Stelis* H. 2-2.5' rays w. g. striped; florets girth w.
 5 *Areuana* H. coarse, 4' large segment g. pur. dotted;
 6 *Zephranthus* H. ter. per; smaller seg. deep pur.; column y.
 7 *Cavendishia* S. 3-6' cr. w.
 8 *vacc.* T. 12-15' buds cr. w.
 9 *Manocheaetum* H. lax fr. only.
 300 *Cracca* ~~multicaulis~~ "multicaulis" H. *parvifolia* (?) pet. w.
 1 *Clusia* S. 5-7' inf. br. y. throughout
 2 *Lomatia* S. 5-7' cal. g.; cor. tube dull r., lobes white;
 3 *Phenax* S. 3-4' fil. w., ant brownish y.
 4 *Tirantia* S. woody at base, buds br. p. - fruit deep blue
 5 *Abutilon* H. 2-2.5' S. 3-5' this spec. S. 1st year old
 T. 15-20'
 S. 9-12' with erect peduncle & per. & style
 S. central stem rich p.
 S. much bran.
 H. up to 3' per. br. bl.
 S. 12' pet. cream color

May 5 open hillside

± 2000 m. (Pampala - Caramapa)

prox.

wooded banks
bluish w. at apex;
open hillside
a. h.

± 2500 m.

wooded banks

± 2500 m.

7 clearing

± 800 m.

Aina Ph. A-87

5 wooded banks

± 2500 m.

(Pampala - Garrafa)

woods thickets along river ± 2200 m. (near Carama)

- 22306 Solanum H \pm woody cor. w. with a medial per. stripe
 7 Solanum H \pm 5' without ant. y.
 8 Eustropogon H \pm 5' fr. g. with darker longitud.
 9 Triumfetta S. with subcan. cor. w. to pink. w.
 10 Strobilanthus S. 3-5' with pet. o.
 1 Miconia S. long. bran. fr. purish brown.
 2 Pheax S. scand. (Cyp?)
 3 Hydrocotyle S. or small
 4 Calceolaria S. 8-12'
 5 Cassia H succ. up to 3'
 6 Clematis H \pm 3'
 7 comp. S 2-3.5'
 8 Asplenium H \pm woody infl. greenish w. throughout
 9 Arrenia H moy. ; fls. greenish y. ;
 20 Adiantum H fil. greenish.
 1 Castilleja H
 2 Ugeratum H
 3 Waetheria H \pm woody
 4 Pheax rugosus H
 5 Monochaetium H
 6 Begonia grandis H
 7 Acalypha H
 8 Rub. H
 9 Columnea H
 30 Cypha H
 1 Rubus relaguiella H
 2 Rubus H
 3 Brachyotum H
 4 Piper H
 5 Arelf. H
 6 Fuchsia H
 7 Lophocampylus H
 8 Boehmeria H
 9 Cordia H
 40 Lanttheria H

May 5 thickets along river ± 2500 m. ^{2200 m.} (Carrapa) ~~(Ficus)~~

wooded banks ± 1000 m. Carrapa

- 22341 *Nakunaria*
 2 *Epideudrum*
 3 *Ageratum*
 4 *Grass*
 5 *Lupinus*
 6 *Hyptis arborea*
 7 *Stenomesson*
 8 *Epideudrum*
 9 *Duggena*
 58 *Hyptis*
 1 *Alternanthera*
 2 *Opalis*
 3 *Dichisia*
 4 *Phenax*
 5 *Peperomia*
 6 *Rub.*
 7 *Pilea diversifolia*
 8 *Psychotria*
 9 *Selaginella*
 60 *Anthurium*
 1 *Orchid*
 2 *Polystichum*
 3 *Diplazium*
 4 *Selaginella*
 5 *Solanum*
 6 *Xochilus latifolius*
 7 *Xochilus lucianifolius*
 8 *Lycopodium*
 9 *Asplenium*
 70 *Miconia*
 1 *Carex*
 2 *Eleocharis*
 3 *Cassia adenaria*
 4 *Polypodium cancellatum*
 5 *Piper*

- ^{ter}
 H to 3'
 H^{ter}
 H
 H to 5'
 H to 25'
 T 15-20'
 H
 H^{ter}
 S 5-7' deep.
 S to 6'
 H^{lax, ± auc.}
 H^{auc.}
 S 5-8'
 S 6-8'
 H^{ep.}
 S^{along, br.}
 S to 6'
 H^{ter} to 4'
 S 6-8'
 H
 H^{ter}
 H^{ter}
 H
 H^{rooted}
 H^{subter.}
 H
 S to 6'
 S^{lvs + inf.}
 H^{ter}
 H^{ter}
 H^{ter}
 H
 S 8-10'
 H
 H^{ter}
 S^{in lvs}
 S 10-15', along or; fl. deep pi.
 H^{rep.}
 S 6-8'

Per. gr.

Per. pi., lvs. ~~gr.~~ ^{gr. apex}
 Cr. like gr. w., lvs. rich pi.

St. bl., y center w. bl., beet w., purple apex

Cor. bluish-pi.

Per. light y, striped light y

Per. bright y

Fr. only

Cor. w., pi.-tinged

infl. gr. w.

Pet. y

Sep. pi. r., pet. r.

infl. green

Fr. wh.

Br. infl. red; cor. red
~~Fr. only~~

Pet. w., per. green

Fr. (incl. stipe) to 6'

Cor. w., fleshy, anther y.
 at summit of stem

Fr. gr.

Fr. gr.

Flower bracts rich pi.

fl. deep pi.

May 5 Open hillside

±1500 m.

C. Garraza

densely wooded valley

wooded banks

- 22376 Lichen
 7 Lichen
 8 Valeriana
 9 Acalypha
 80 Peperomia
 1 Calceolaria
 2 Sparna
 3 grass
 4 Sparna
 5 Begonia
 6 Polypodium
 7 Cavendishia
 8 Miconia
 9 Hedyotis
 90 Begonia arborea
 1 Polypodium
 2 Clathroploca
 3 hepatic
 4 hepatic
 5 moss
 6 hepatic
 7 hepatic
 8 lichen
 9 lichen
 400 lichen
 1 Polypodium
 2 Crotalaria
 3 Hedyotis
 4 Marchantia
 5 orchid
 6 Trichomanes
 7 Drosera
 8 Pteris podophylla
 9 Viburnum laurophyllum
 10 Valeriana
- On wet tree
 On moist bank
 H 12-20'
 T. terr.
 H cor. y.
 T 10-15'
 T. semi-prostrate among
 H shrubs, up to 6' l. crisp dist., paler prox.
 H U.
 H terr.
 H ep.
 S 8-12' tube
 cor. dull red, lobes g.
 pet. br. bl.
 S 3-6', with
 S elong. brs.
 H terr.
 T 12-20' per. seg. g.
 upl. up to 2' across, leaves
 up to 1.5" wide
 H on moist
 H banks
 H "
 on moist tree trunk
 on moist soil
 on moist soil
 on moist soil
 on tree trunk
 on tree trunk
 on tree trunk
 on tree trunk
 H on moist bank.
 S 4-5'
 T. balls, apparently
 T. 25' or more
 on moist soil
 H ep.
 H on moist bank
 H
 H stipe up to 5', fr. 3-4'
 T 15-20' pet. w.
 H up to 4' cor. greenish w.

May 5 densely wooded valley ^{+1500 m.} ^{cc} Barro Colorado
 o.k.
 densely wooded valley

22411 *Miconia*2 *Andropogon*3 *Cyrtia*4 *Pitcairnia*5 *Meibomia*6 *Sphactia*7 *Stachys*

8 rub.

9 *Miconia*

20 ind

1 *Psychotria*

2 comp.

3 comp

4 *Elaphoglossum*5 *Piper*6 *Hypericium*7 *Cyphoptera*8 *Asa*9 *Valeriana*30 *Eruphalium*1 *Elaphoglossum*2 *Psammisia*3 *Phlebodium*

4 lichen

5 orchid

6 *Rhynchospora*7 *Columnnea*8 *Phyllanthus*9 *Pilea danciodora*40 *Demostedia*

1 comp

2 *Abutilon*3 *Polypodium*4 *Richardia*5 *Clethra*

T 20-25' pet. & sta. w. calyx brownish

H woody at base cal. tube r, streaked with

H 1-2' y. ; large petal r.

H terr. per. br. s.

H subcaudant pet. bl.

H V. stan. bl, paler prox. midvein

H + woody, yish. in; unsp. bl. out, keel

H up to 3' cor. deep r, sty. w. pistil.

H V. cor. w.

T 12-15' pet. w.

H fr. y.

T 8-15' cor. deep. rich pet. w. y.

H with divaricate lvs., rays w. ; fls. white

S 6-10' rays y. ; fls. greenish y.

H 12-20' sta. purple.

H 12-20'

H terr.

H terr.

H slender

H

H

H

H

H

H

H

H

H

H

H

H

H

H

H

H

H

H

H

pet. w.

per. w.

cor. greenish w.

cor. + lobes greenish w. ; fls. greenish.

aut. br.

fr. y.

hpl. greenish

cor. bright red

pet. greenish-w.

hpl. greenish

cortex bulb. fr. to 6'

fls. deep y

pet. salmon-y

cor. w

br. only

T 20-25'

T 20-25'

T 20-25'

T 20-25'

T 20-25'

T 20-25'

May 6 thickets along stream ^{+1500 m.}

(C. Barrapa)

light blue.

±1200m. (C. Barrapa - Alina)

open hillside

woods

open hillside

t.a.s.

o.h.

deep woods

thicket

on moist bank

deep woods

22446	Grass	H to 5'	
7	Asterium	S 8-12'	Cor. & styles gr. - w.
8	Monnina	H ^{± woody; stem} _{subsimple, to 5'}	Pet. deep blue
9	Trichantha	S ^{stem erect} 4-8'	Cor. tube cream wh purp - red.
50	Cibadium	S 6-8'	infl. pink - wh.
1	Piper	S 6-8'	
2	Meibomia	V herb	St. ovary pinkish blue, h. wh.
3	Siparuna	T ^{to 25'} 10-15'	Pl. orange green
4	Columna	H coarse	Cor. red.
5	Serjania	V ^{± woody}	Pet. wh.
6	Vernonia	S 6-12'	Pl. pinkish blue
7	Miconia	S/T 12-15'	Pet. wh.
8	Rapanea	T 10-12'	P. deep gr.
9	Lycopodium	V	
60	Baccharis	S 8-10'	Pappus wh.
1	Eupatorium	S 8-10'	Cor. gr. - w., lobes & style
2	Coccospalum	H lax	P. deep blue
3	Ageratum	H ^{to 5', much} _{branched}	Cor. gr. - w., lobes & sty. deep
4	Valeriana pavonii	V ^{± woody}	Cor. gr. - w.
* 5	Struthanthus	S ^{paras.} _{along br.} 6-10'	
6	Cordia	T ^{20-25'} _{infl. pendant}	
7	Myricarpha	S	Cor. w., anthers y.
8	Solanum	H ter	Per. rich purple
9	Orchid	H ter	Per. pale pi.
70	Epidendrum	S 6-10'	
1	Pouzolzia	H	Cor. y, red. striped within
2	Crotalaria	H repent	
3	Polypodium	T 8-12'	fr. only
4	Myrcia	T 15-20'	Pet. wh.
5	Cissia	H rep	
6	Polypodium bursellatum	H	
7	Asplenium	H	
8	Columna	S 10', _{climby}	Cor. red
9	Liatum	S ^{± 9'}	Rays bright y; fl. gr. - y
80	Podocarpus		

May 6 Open hillsides

± 1000 m. (Barraza - Quia)

Woods
thickets

deep woods

thickets

pi. - blue. ~~open thickets~~
woods

pink

thickets

woods
~~open thickets~~
dense forest

22515 ~~Melastoma~~

6 Melastoma

7 ?

8 ?

9 Orchid

20 Stenandrium

1 Habenaria stenactylis

2 Pausanias

3 Eugenia

4 Palicourea

5 Raccobaria

6 Grass

7 Moss

8 Paspalum

9 Dryopteris

30 Myrcia

1 Aca

2 Hef.

3 Heliconia

4 Cheilanthes

5 Grass

6 Liparis

7 Malaxis

8 Orchid

9 Orchid

40 Solanum

1 Crotalaria

2 Orchid

3 Orchid

4 Hydrocotyle

5 Selaginella

6 Miconia

7 Heliconia

8 Polypodium

9 Polypodium

50 Philodendron

H ^{± woody below}
stem simple, to 4'

T 20-25'

T 20-30'

H ^{ter. simple,}
H ^{in clump,} to 7'

H vine

H ter

H to 5'

H

S ^{± 7'}

S stem simple

S 6-9'

H to 6'

On tree trunk

H

H

T 12-15'

H ter

On wet trees

H Pet. ^{± 3'}, lvs. ^{to 5'} x 1.5'

H

H

H ter

Eph

Eph

Eph

H ter to 5'

S to 7'

H ter

Eph

H stem ref.

On forest floor

S to 6'

H lvs. to 4' x 1'

H pet. 3'

Roots. repeat after

H climbing up tree trunk

H to 2'

St. pi., wings light bl

Fr. reddish when ripe

Buds green

Fr. only

Cor. cream-w

Per. gr.

Pappus w

Fr. gr.

Huds. gr.ish-w

Pappus w

Fr. gr.

Huds. gr.ish-w

Pappus w

Fr. gr.

Per. w

Fr. only

Per. seg. rose-red, green apex

Per. seg (wilted) reddish

Fr. only

Seg. salmon dist., pale prox

Pet. pure y

Buds gr.

5-6 seg. brown, lip pi, col. gr.-w

Infl. gr. w

Fr. only

Br. gr. prox, pi. dist.

Fr. only

Br. gr. prox, pi. dist.

Fr. only

Br. gr. prox, pi. dist.

Fr. only

Br. gr. prox, pi. dist.

Fr. only

Br. gr. prox, pi. dist.

Fr. only

Br. gr. prox, pi. dist.

Fr. only

May 8 thickets

woods

thickets

woods

thickets

dense forest

1000 m -

thickets

dense forest

m. 800-1000m. Aina

22551 *Smilax* V ± woody
T 30-40'

2 *Anona*

3 *Dryopteris* "disophylla" H

4 *Abutilon* H to 4'

5 *Consp.* H

6 *Solanum* H to 7'

7 *Nabeuaria* "alba" H

8 *Cracca* "mitis" S 3-5'

9 *Nabeuaria* H ter

60 *Orchid* H ter to 5'

1 *Rubus* "sempervirens" S to 7', along
62.

2 *Columnea* H to 3-5'

3 *Anthurium* H ter

4 *Peperomia* H ter on
forest floor

5 *Piper* S 4-5'

6 *Piper* S 4-5'

7 *Polygala* H

8 *Epiphyllum* H ter to 7'

9 *Malaxis* Ep h

70 *Lichen* on tree

1 " " "

2 " " "

3 " " "

4 " " "

5 " ? " "

6 " " "

7 " " "

8 " " "

9 *Hep.* " "

80 " " "

1 " or lichen? " "

2 *Lichen* " "

3 *Hep.* " "

4 " " "

5 *Moss* Base of "

Pet. fleshy, wh.

Pet. + st. y

Hds pinkish wh.

Cor. w., aneth y

Per. pure wh.

Pet. w, gr.-tinged

Seg. wh in, gr. tinged out

Seg. deep magenta, lip

Pet. wh

Cor. bright r.

Pet. to 3'

Lvs. reddish beneath

Pet. blue + cream wh

Per. bright y; inf

Seg. deep r.

May 8 open woods.
~~dense forest~~

1050 m.

~~750-1000~~

Aina

clearing

thickets

clearing

wood

wh. cut out thickets

~~dense forest~~ open woods 1000 m.

sometimes branching

- 22586 Orchid
 7 Dryopteris
 8 Polypodium
 9 Peperomia
 90 Orchid
 1 Lachia
 2 Orchid
 3 Vayria
 4 Pseudorichardia
 5 Orchid
 6 Orchid
 7 Orchid
 8 Oxyanthus
 9 Lichen
 600 Orchid
 1 Lichen
 2 Moss
 3 "
 4 Paspalum
 5 Stylosanthes
 6 Cracca caribaea
 7 Chamaecypar
 8 Grass
 9 Stenophyllus
 10 Orchid
 1 Orchid
 2 Orchid
 3 Yucca
 4 Ardisia
 5 Halimnura
 6 Santalura
 7 Rellumum
 8 Piper
 9 Ploradendron
 20 Ruvulvina

Ep h
 H. . . .
 H Rhiz. depend
 H ter.

Ep h
 H ter
 Ep h.
 H saprophyte

Ep h
 Ep h
 Ep h
 Ep h
 S par.

On twigs

Ep h
 On tree

" "
 " "

N
 H br. subprostrate
 H br. prostrate

H

H

H

Ep h

Ep h

Ep h

S 4-5'

H

H ter

S 2-4'

H br. interstinal

S 5-8'

S par.

H br. stems to 4'
 Infl. at base

Per. brownish (wilted)
 Fr. ashy and \pm 1.5'
 Branch to 4' (with \pm 1.5')

Per. brownish (wilted)
 Per. pink-w., lip deep pink
 Per. green-w., purple dotted
 Cor. y
 Per. pinkish (wilted)
 3 seg. pinkish, gr. dist.
 seg. brownish (wilted)
 Bracts purplish; fls. pink

5 seg. & col. grass-gr., lip wh

Pet. light y in, per \pm red. \pm 1.5'

Pet pinkish-blue

Pet. wh

seg. light green

seg. pinkish-w

seg. deep pi.

Pet. deep gr out, light gr in; petals w

Per. green

Per. pi

Fr. w.

Bracts ashy-w

Per. light

May 8

dense forest of low woods
 1000 m.

Arina

lip gr., purple-dotted; col. deep purple

(wilted)

clearing

dense forest o.w.

Open to clearing

woods

- 22621 *Dryopteris* H
 2 *Palicourea* S 8-12' Br. infl. red
 3 *Adiantum* H Cor. y, lobes red
 4 *Piper* S 8-12'
 5 *Liliaceae* H stem aus. Per. wh.
 6 *Danaea* H
 7 *Heliconia* H to 6' Br. bright r., gr. margin & back
 8 *Dryopteris* H
 9 *Pothomorphe* H to 6' Spikes wh.
 30 *Eupatorium* H \pm woody Pap. wh.
 1 *Nicotia* S 10-12' Fr. black
 2 *Croton* H? up to 20' slender Br. bright r.; per. pi.
 3 *Palicourea* S 9-12' Fr. only
 4 *Piper* S 6-10'
 5 *Hep.* On *Piper*
 6 *Chamaecyp.* H Pet. w
 7 *Solanaceae* H \pm woody trailing up to 6' long. Fr. light gr.
 8 *Asplenium* H
 9 *Amaranth.* H Fr. or. r.; seeds black.
 40 *Art.*? H along cr.
 1 *Tringus* On fallen tree
 2 *Tringus* " " "
 3 ~~*Tringus*~~ *Ephocaerylus* " " " W. U. cor. br. p.
 4 *Tringus* " " "
 5 *Urera laciniata* T 12-15', trunk slender
 6 *Lasiacis* V herb
 7 *Demarestia* H? Stipe \pm 5'; fr. 4-6'
 8 *Ruellia* H to 4' \pm woody Cor. pinkish - bl.
 9 *Comp.* S 4-6' or woody vine, branches tangled fls. pale, dark gr. - y.
 50 *Dryopteris* H \pm 4'
 1 *Demarestia* H Stipe 4', fr. 3'
 2 *Piper* S 8-10'
 3 *Nicotia* T 10-15' Pet. pi. to wh
 4 *Cyanea* T.F. trunk stout, \pm 2'; stipe 4', fr. 8'
 5 *Comp.* H 6-7' Flowers deep y.

Edge of dense woods
 May 8 Estrella, Valley of Rio Piedra (500 m. from the river)

dense forest woods

edge of woods

- | No. | Plant Name | Height | Flower Color |
|-------|------------------------------------|--|---|
| 22656 | Hypsetia | H 3-4' | Cor. light pi. |
| 7 | Phytolacca | H with trailing
H or. 4-6' long | Fr. deep purple |
| 8 | Porcammunia | T 10-15' | Cor. light y, ^{tube} gr. tinged out |
| 9 | Blechnum | H | |
| 60 | Dianthus | S 3-6' | Cor. bright r. |
| 1 | Acalypha | H 5-6' | Inf. light gr. |
| 2 | Acalyph | S 10-12' "same as 22661? It has a very different
growing habit" | |
| 3 | Delaginella | H repeat below | |
| 4 | Delaginella | H | |
| 5 | Moss | Decayed log | |
| 6 | Porcammunia | T 12-15' | Cor. light y
Pr. olive-green (new ribs) |
| 7 | Pityrogramma | H | |
| 8 | Tournefortia retacea | S 2-4' | Corolla wh, tube gr. tinged out |
| 9 | Begonia | H succ. to 3' | Fls. wh. |
| 70 | Koellichia | H | Cor. light blue, pi. tinged |
| 1 | Delaginella | H | |
| 2 | Clidemia | S 6-8' | Pet. wh, anthers light gr. |
| 3 | Isoboma | H 1-2' | Cor. red |
| 4 | Fern ^{Isoboma} | H | Fr. to 8' l., depending on
branch |
| 5 | Browallia | H | Cor. bright blue, ^{paler} out, 1 lobe |
| 6 | Curatella | low S or. trailing to
6' l. | Fls. gr. |
| 7 | Piper | T 10-15', trunk
slender, ± 2" diam. | |
| 8 | Kyllinga | H | |
| 9 | Moss | On bank | |
| 80 | Moss | " | |
| 1 | Panicum ligularis | H ± woody | Sep. wh. in, gr. out; pet. pinkish w
rays wh, deep pink-stippled below |
| 2 | Acalypha | T 15-20' | Inf. greenish |
| 3 | Browallia | H to 3' | Cor. bright blue, y. & w at cent. |
| 4 | Lobelia | H | Cor. pale pi |
| 5 | Eupatorium | H to 7', branched above | Cor. tube w, pi. tinged ^{above} 5 lobes; |
| 6 | Tillandsia | H ter | Fr. gr. |
| 7 | Myriocarpa | T 20-25' | Inf. greenish |
| 8 | Eupatorium | H to 4' | Fls. pinkish w |
| 9 | Centropogon | S stem subsimple
to 4' | Cor. light red; lobes 4-5 lobes; - r. |
| 90 | Comp. | H to 5', strong odor | Fls. gr, styles green. |

May 8 Edge of woods. Estrella, Valley Rio Piñi ^{500m.} (+500m lower than ~~Pin~~ ^{Pin})

at base

~~May 9~~ May 9 Rocky bank, in shade 800m⁺ Arica

Slitshet
light purpl. stippled above; open. wh., red-purple margin
open woods
open hillside

styles wh. thickets
open rocky hillside
open woods.
thickets

- 22691 Comp H
2 Habenaria H
3 Tringus On log
4 ~~Clusia~~ Clusia T 15-25'
5 Euphorbia H to 3'
6 Lantana S 5-9'
7 Pityrogramma "aerea" H
8 Cordia S br. at base, with slender branches 4-6'; calyx light gr.
9 Solanum H to 3' + woody below
108 Tibouchina S 3-7'
1 Euphorbia H to 2'
2 Tillandsia ~~cruciatifolia~~ H + auc. Bracts reddish; pet. gr. w.
3 Moss H stems deep pi.
4 Clidemia On bank
5 Miconia S 2-3'
6 Clidemia S or low 10-12'
7 Browallia "pariflora" S 8-12'
8 Pisonia H
9 Lippia V herb
10 Liabum S slender, to 6' (3)
1 Scoparia dulcis V herb + woody below
2 Ruella H
3 Phoradendron Par shrub
4 Adiantum H
5 Piper S 1.5-2', spreading branches
6 Cyathea T.F. trunk ± 2.5', st. 5', fr. 6-7'
7 Pteris H Stipe ± 3', fr. ± 4'
8 Mikania V woody
9 Ameria phyllitidis H
20 Polypodium H report on tree
1 Marichia S with elong. br.
2 Passandra ~~membrata~~ V herb
3 Siparuna T 20-25'
4 Lonicera V herb
5 Dryopteris H

Rays & fl. y, anthers deep purp
Per. gr. wh.
Orange - r.
Pet. wh.
Br. purpl. proc, gr. dist.
Cor. pi, tube y at center
y beneath
Dr. gr., darker striped
Pet. magenta - pi., anthers y
Bracts reddish; pet. gr. w.
Bracts & per. pink
Pet. cream - wh.
Buds & fr. only
Pet. light pi.
Fr. bright purp.
Cor. blue, paler & ab-striped
Cor. bright green
Infl. rich pi.
Rays bright y, florets darker y
Dr. green
Cor. bluish - pi.
Lvs dark gr.
Growth gr., lobes & stg. w.
Fr. only
Fls. pi. - w
Fr. rose red when ripe

May 9 Thickets

750-800 m. Area

Rocky open hillside
Thickets

open woods

dense forest

- 22726 *Dryopteris*
 7 *Diplazium*
 8 *Peperomia*
 4 *Isoloma*
 30 *Heliconia*
 1 *Polygala*
 2 *Inga*
 3 *Tournefortia setacea*
 4 *Viburnum*
 5 *Pass*
 6 *Mitania*
 7 *Pass*
 8 *Moss*
 9 *Ipomoea "campanella"*
 40 *Ipomoea "campanella"*
 1 *Colletes*
 2 *Dioscorea*
 3 *Paullinia*
 4 *Asplenium*
 5 *Moss*
 6 *Pilea hyalina*
 7 *Mucuna*
 8 *Castilleja*
 9 *Trungus*
 50 *Orchid*
 1 *Heliconia*
 2 *Anac.*
 3 *Stelis*
 4 *Orchid*
 5 *Stelis*
 6 *Polypodium*
 7 *Crinum giganteum*
 8 *Tournefortia*
 9 *Palu Hydrocotyle*
 60 *Palu*

- H
 H
 H trailing on fallen log
 H to 2' Cor. bright r.
 H erect, to 7' Bracts dark r; fruit g-y
 H + woody below to 1.5' Pet. light pi.
 T 12-20' Pet. & stem cream w
 S 6-8' along br. Cor. cream-w; fr. w.
 T 12-15' tr. slender + 2" diam.; cor. w; fr. bl.
 H, elong. br.
 V + woody branched near H base - to 2'
 On rocky shaded bank
 V herb Cor. pinkish purp. dist. ^{wh} _{prose}
 V herb Cor. " " " g-g "
 V herb Cor. w
 V herb Per. gr. - w
 V woody Dr. bright r
 H
 On rock
 " " Infl. pink.
 V + woody below Pet. or - red
 H 2-2.5' Upper br. red dist.
 On log
 H ter Pedicels wh.; per. seg. brown
 H ter + repent
 T
 Ep. h. Fls. gr. - y.
 Ep. h. Per. g. w
 Ep. h. Per. apparently brownish - pi.
 Ep. h. Per. greenish, rose-dotted
 H repent on tree
 H 3-5'
 S, br. along to 7'
 H rep.
 Plant 3-4' Infl. g. w

May 9 ~~dense forest~~ ^{woods}

750-800m. Aina

open wood

May 10 thickets

± 800m.

Wooded banks
dense woods

thickets
edge of woods
dense forest

- | | | | |
|-------|----------------------------|---------------------------|--------------------------------|
| 22761 | Eugenia | Sorlow T | Pet. wh. |
| 2 | Ruellia | H \pm woody | Cor. like 12-pi, limb with pi |
| 3 | Begonia 'scandens' | H ter stem \pm scandent | Mr. only |
| 4 | Palen | 3-4' | Infl. at base |
| 5 | Boehmeria | 5-10' | Infl. greenish |
| 6 | Peperomia | H ter | Spikes wh. |
| 7 | Hoffmannia | S | Mr. wine-colored |
| 8 | Saurauia | T 20-25' | Pet. wh. |
| 9 | Peperomia | H ter stem rep. | |
| 10 | Isoloma | H \pm 1' | No fls. |
| 1 | Hep. | On leaf | |
| 2 | Dioscorea cucurb. | V herb | Per. gr. y-g. |
| 3 | Stelis | Ep. h. | Per. gr. - w. |
| 4 | Peperomia | H rep. on tree trunk | |
| 5 | Polypodium | On tree | |
| 6 | Stelis | Ep h | Per. gr. - w. |
| 7 | Pleurothallis | Ep h | Per. light gr. |
| 8 | Malaxis | Ep h. | Per. deep reddish-pi. |
| 9 | Dryopteris | H | Stipe 2-2.5' fr. 3' |
| 80 | Peperomia | H ter rep. | Lvs. dark gr. above, pale ben. |
| 1 | Fern | Rep. on fallen log. | |
| 2 | Diplazium | H | |
| 3 | Ichnanthus | H | |
| 4 | ? | Stem \pm 2.5' | Cor. w., calyx light gr. |
| 5 | Belanophora | H saprophyt.? | Plant black |
| 6 | Rep. | On fallen tree | |
| 7 | Moss | " " " | |
| 8 | Hep? or lichen? | " tree | |
| 9 | Moss | " decayed log | |
| 90 | " | On bank | |
| 1 | " | On forest floor | |
| 2 | Alternanthera | H lax, clong. br. | Infl. wh. |
| 3 | Niharia | V \pm woody | Pappus pi |
| 4 | Urera baccifera | H coarse erect | Infl. dark pi. |
| 5 | Crotophaga menispermifolia | H stem simple | |
| | | V herb | sterile |

May 10 Dense forest \pm room. Cuna

Thickets

- 22796 *Trungus* On log Orange-red
 1 *Cyperus* H
 8 *Rhynchospora* H Mr. gr.
 9 *Solan. ?* H coarse ??
 800 *Passiflora rubra* V herb see notes
 1 *Quamoclit coccinea* V herb Cor. scarlet
 2 *Cuphea* H + woody below
 3 *Burmannia* H 1-2' branched
 4 *Passiflora* H to 5'
 5 *Lichen* On tree trunk
 6 *Moss* On dec. log
 7 *Dryopteris* H
 8 *Carex* H
 9 *Oplismoglossum* H on damp soil
 10 *Clidanthus* S 4-6' Cor. w
 1 *Jurpima* T 20-25' Mr. light r; pet. g-y
 2 *Tajetes* H to 3' Rays gr. - w
 3 *Calceolaria* H to 1' Cor. light y
 4 *Rhododendron* Spr. on Citrus Lvs. deep gr.
 5 *Citrus* T 15-20' Mr. very acid, elong. to 5" x 3" diam. pet wh.
 6 *Citrus* T 15-20' Mr. very acid, affluens juice squeezed into soup pet wh.
 7 *Citrus "limon"* T 15-20' Mr. acid; pet wh.
 8 *Leucaena "leuca"* T 20-25' Mr. eaten
 9 *Phaseolus "singacca"* V herb Pet. cream wh; fr. eaten
 20 *Cyclanthus "cayana"* V herb Cor. w; fr. eaten
 1 *Phyllanthus* V herb Mr. whitish
 2 *Phyllanthus "barbarea"* T 15-20' trunk subsimp, slender; branched drooping
 3 *Coffea* S 8-12' Cor. w; fr. red
 4 *Commelina* H to 1.5' Per. bl
 5 *Passiflora serrato-digitata* V + woody below See notes
 6 *umb.* H lax, to 4' 7 nfl. gr. - gr.
 7 *Erythrina* T 25-35' Pet. trad, paler in darker
 8 *Relbunium ?* H 5' 2' woody below Sep gr. - wh.
 9 *Couph* H lax to 2.5' Rays ofl. wh
 30 *Peperomia* H Ten

May 10 ~~Woods~~ forest clearing Edge of woods ± 800 m. Aina

gr. gr.

May 12 thickets 900 m.

open woods

clearing

thickets

striped

- 22831 Polystichum H
 2 moss on rock
 3 moss " "
 4 Uncinia H
 5 Diplazium H
 6 Anthurium H ter
 7 " H ter
 8 Asplenium multisectum H
 9 Philodendron H ter
 40 Ipomoea V herb
 1 Croton S 8-10' ?
 2 Orchid Ep h
 3 Gossypium S to 8'
 4 Hamelia S ± 4'
 5 Abutilon S to 7'
 6 ~~Gonolobus~~ "coca" S erect fr. low to 5'
 7 Piper S 10-12'
 8 Polygala H 3-4'
 9 Trema S with br. along to 10'
 50 Phaseolus V herb
 1 Miconia V herb
 2 Ipomoea V herb
 3 Stachytarpheta H to 2.5'
 4 Cardiospermum V herb
 5 Menisperm. ? V ± woody
 6 Nephrolepis H ep. on palm trunk
 7 Euph. ? + 12-20'
 8 Bonarea V herb
 9 Eupatorium S or woody V ?
 40 Clibadium S
 1 Polypodium On trees
 2 Meliac. ? T 10-15'
 3 Sapind. T 12-18'
 4 Palm + 6', tips 2', "fruit" 8-10' fr. black
 5 Xanthosoma H appressed to tree trunks; spathe w

May 12 woods

900 m. Aina

thickets

May 10 thickets, Valley of Rio Apurimac, near Kimpitiriki 4000 m.

deep woods

head. greenish-pi.

- 22846 *Peperomia* Ep. h.
 7 ? "granadilla de chunchus" T 12-15' Dr. orange
 8 ? T 8-12', spreading br. to 20' fr. y
 9 *Vittaria* Ep h
 70 *Asalypha* T 8-14'
 1 *Danaea* H
 2 *Tabernaemontana* T ± 5' tr. slender; cor. wh.
 3 Rub. S 5-7' Pedicels deep pi
 4 *Acanth.* H to 2' Cor. tube pink w, lobes blue, pale at base in
 5 *Demostictia* H seip 2-2.5' fr. ± 3'
 6 Rub. H ± under below Dr. bright blue
 7 *Polecoinea* S 10-12' Red. pi.; Cor. wh. ?
 8 *Acanth.* H low deep pump. den.
 9 *Sarcocolla* H Cor. red
 80 *Cestropogon* g along br Cor. tube r, lobes & stamens tube pi.
 1 *Polypodium* H ter
 2 *Cornelia* H coars 3-5'; fr. rich pi.
 3 Rub. H hel. Cor. w? or light y?
 4 *Marant.* H Dr. or. r.
 5 *Calathea* H Dr. deep to Br. light y
 6 *Orchid* Ep h 5' seg. pendul w
 7 *Mushroom* On log Pl. pinkish
 8 Moss " " " "
 9 *Aroc.* V herb Cor. yr. w
 40 *Polypodium* On tree
 1 Rub. T 10-15' Dr. pi., greenish dist.
 2 *Acanth.* H ± 2' Br. mahogany-r.
 3 *Psychotria* S 2-5' Dr. black
 4 *Peperomia* H climbing on branches
 5 *Peperomia* X rep. on tree
 6 *Ruellia* H Cor. pi.
 7 ? S 2-4' Dr. bright gr. (int. ruf.)
 8 *Okac?* S 4-8' Dr. wine-color
 9 *Palu* seip 2-4' frond 4-6' Dr. pinkish-purpl.
 900 ? T 12-20'

May 10 deep woods, Valley Rio Apurimac, near Kimpitiriki

- 22901 Psychotria
 2 Sabicea herbacea
 3 Psychotria
 4 Hemiteles
 5 ?
 6 Grass
 7 Psychotria
 8 Meconia
 9 Passiflora coccinea
 10 Lasiacis
 1 Manihot "yuca"
 2 Crotalaria
 3 "arbo de almedon"
 4 Acanth?
 5 Solanum
 6 Clibadium
 7 Euphorbia "coca"
 8 Asplenium
 9 Canavalia
 20 Psychotria
 1 Clidemia
 2 Inga
 3 Grass
 4 Mimosa?
 5 Adiantum
 6 Piper
 7 Sipanea
 8 Asclepi
 9 Teranemus?
 30 Euph.
 1 Cissampelos
 2 Stenandrium
 3 ?
 4 Leg.
 5 Urena
- S
 H rep.
 H ± 2'
 H
 T 12-15'
 H ± 2'
 T 10-12'
 S 6-10
 V herb
 V herb
 S 10-12'
 H coarse, to 8' long
 T up to 12'
 H
 H coarse 4-6'
 S 10-12'
 S up to 6'
 H
 H
 H 2-2.5'
 H woody (cl.)
 S 3-5'
 S? in tangle fallen to
 H
 H?
 H
 S 3-4'
 V woody? (or 5 long. bi.)
 V herb
 V ± woody below
 S 10-12'
 V herb
 V herb
 S 6-12'
 V woody?
 S 8-12'
- Fr. black when ripe
 Fr. bright r
 Pedicels deep pi; fr. gr
 Fr. 4-5', dark gr above
 Fr. or.
 Fr. rose-r. ripe
 Ripe fr. black
 sep. pet. scarlet
 pet. wh. below purp above
 pet. w, pi.-tinged
 Fr. light gr., ribs purp.
 Bracts scarlet, tips gr.
 Used to wash with w. fls.
 Cor. deep pinkish blue, anthers y
 Infl. w
 Pet. gr.-w; fr. or. red
 Infl. greenish - wh
 Fruit wh
 Bud pi
 Pet. o ~~fil~~ stamens
 green-pi.
 Pet. B blue, pi.-tinged
 Fr. deep pi.
 Cor. w
 Pet. deep pi. st. paler out but
 striped with deep pi.
 Fr. gr. - deep pi.
 Br. light gr.; fr. red
 Cor. green - w
 Fr. only
 Buds only (greenish)
 Infl. green gr.

May 10 deep woods, Valley Rio Apurimac, near Kimpitiriki

min (tubular) w.; per. deep pi; gyno. red. ~~inflorescence~~ fl-tube deep red 10-12

Cult. from cult. into thickets
 deep woods

Cult. on plantation
 Cult. thickets

Cult.

deep woods

Edge of dense jungle along beach

Ph 510-12
 510-13 (small)

Ph.
 Ph 510-21

- 22936 *Bomarea* V herb Out seg. or - y, in or - y, slightly gr-tinted apex
 7 *Lasiacis* V herb
 8 *Dioscorea* V woody Per. cream-wh
 9 *Cassia* S 10-14' Pet. bright
 40 *Nissola* V woody Pet. pi
 1 *Cissus sicyoides* V woody Pr. black
 2 *Xylopia?* T 12-20 Fls. gr.ish-w
 3 *Chouetia?* W V Cor. gr. y.
 4 ~~*Heliconia*~~ *Acanth* ~~W T 12-15'~~ ~~Pr. red~~ Cor. pi.
 5 *Polypodium* H 6
 6 *Miconia* S 10-12' Pr. wine-color
 7 *Acalypha* H \pm 3' woody Infls. Br. gr. infl. deep r
 8 *Dalechampsia* H V Pr. gr.
 4 *Philodendron* H \pm 1' tree trunk Pr. gr. w
 50 *Tringus* On log Olive. gr. above, salmon ben
 1 *Polypodium* H trailing
 2 *Myriocarpa* T 12-20' Infls. reddish
 3 *Pentaclethra* W. V. very common (esp. across mule trails) rarely in fl.
 4 *Sandbergia* Br. red, r. or y; cor. gr. y
 5 ? S much tangled T 15' Pr. brownish-pink
 6 Moss On soil
 7 *Solanum* H \pm 2' Pr. r; cor. w; anther y
 8 *Pityrogramma* H
 9 *Cephaelis* H
 40 *Journefortia* S 3-4' Cor. w.; gr.-tinged
 1 *Dialanassa* H Spikelets w
 2 *Tringus* On tree Pl. or - r.
 3 *Tringus* On tree Pl. w
 4 *Mainbot* S Br. g, into wh.; pet. w, hi-tinged
 5 *Distyon* H
 6 ? T 20-30' Br. drooping to ground Infl. (buds) y-g
 7 *Acanth* H 3-4' Cor. (apparently r)
 8 "Sea-weed" In river
 9 *Serjania* W V
 70 *Solanum* H cor w, anther y Pr. deep purple to black

May 10 Edge of dense jungle along beach Rio Apurimac Kimpitiriki 4000 m.

Among rocks, sandy beach

Edge of dense jungle along beach
 Sandy beach
 Edge of dense jungle ...

22971 *Lycopersicon*2 *Solanum*3 *Kyllburgia*4 *Bursera*5 *Tectaria*6 *Cyclophellia*7 *Orchid*8 *Orchid*9 *Orchid*80 *Bidens*1 *Peperomia*

2 ?

3 *Rosaceae*4 *Anthurium*5 *Olyra*6 *Acauth*7 *Samolus*

8 ?

9 ?

90 *Piper*1 *Cucurbit*2 *Bomarea*

3 ?

4 *Aroid*5 *Plagiogynia*6 *Phytolacca*7 *Fungus*8 *Isora*9 *Psychotria*23000 *rub.*1 *mas*2 *Policonna*3 *Plagiodendron*4 *Arum*5 *mel.*

HV

H

H

Or. Br. fr.

H

H

Ep h

Ep h

Ep h

H ± 4'

Ep h

T 5-20' fr. along, drooping; fr. light gr. (not ripe)

T 10-15' fr. x

H climbing up tree trunk. Shading greenish-w

H

H 3-6'

H 4-6' fr. 4'

S 6-8'

S 6-8'

S 8-12'

HV

HV

HV

H

F. terr.

H

H

S 8-10'

S 4-5'

S slender

L 12-18'

S 10-15'

S slender

L 15-20'

Pr. dark gr., white-mottled
lighter-gr. striped

Cor. gr.-w; anther w, gr.-tinged

Per. seg. pinkish

Buds gr.

Heads y

Cor. reddish-pi.

fr. 4'

fr. drooping (not ripe?) deep pi

Calyx at length dark pink.

Petals lilac; ripe fr. r.

Cor. y

out. seg. w. yellow y, gr.-tinged

Seeds red

Buds greenish-w

epiphytic, affixed to tree trunks

Buds greenish-w.

Cor. w.

femine-colored

fr. becoming deep bl.

calyx o.r. fr. becoming black

fr. 4'

fr. 4'

fr. 4'

fr. 4'

fr. 4'

fr. 4'

fr. 4'

fr. 4'

May 10 Sandy beach, Rio Apurimac, near Kimpitirichi town.

Edge of dense jungle along beach

Sandy beach

Edge of dense Deep woods

Thickets

11 deep woods

- 23006: palm
 7 aroid
 8 Cayaponia
 9 acauth.
 10 aroid
 1 Triantha
 2 anac.
 3 Tillandsia
 4 rub.
 5 Ruellia laevis
 4 Choruzia
 7 Poly Cydopeltis
 8 Paleocarya
 9 Solanum
 20 grass?
 1 Anthurium
 2 Psychotria
 3 rub.
 4 til.
 5 Piper
 6 Serradenia
 7 Combretae
 8 Calathea
 9 Biophytum
 30 Calathea
 1 Tiliaceae
 2 Anacard.
 3 Cassia
 4 Cleistanthus
 5 Liliaceae?
 6 moss
 7 Tournefortia setacea
 8 Centropogon
 9 Histioglossa
 40 Stenorrhynchos

- stem slender, erect, 2-3'
 H ep.
 H₂ U. cor. o.r.
 H cor. light blue.
 H₂ terr.
 H up to 3' per. w, blue tinged
 H 10-15'
 H ep.
 S slender, about 3' tall. fr. br. y.
 S stem erect, cor p., bracts y. y.
 T up to 15' slender cor. y.
 W. U.
 H₂
 S 8-12' bran. of upl. deep p.; ^{cor.} yish prod. gnish. dist.
 H 3' fr. red. pur.
 H₂ cor. gnish. y.
 H₂ terr. with
 H short erect stem
 H₂ terr.
 S slender cor. gnish. w.
 S 6-10' fr. wine-colored
 S 6-8'
 H ± woody
 H₂ below buds gnish. w.
 S 10-12'
 H V
 S 10-15' Cor. gnish. wh.
 H 4-5' Dr. gr. (not ripe)
 H ± woody bel. Per. gr., red-tinged
 H ± 3' Buds gr.-wh.
 H₂ ± 3' Per. seq. greenish
 H₂ woody bel. Infl. gnish. w.
 T slender 12-15' Infl. y-g.
 H Dr. (not ripe) gr.
 S 8-10' flowers wh.
 H fr. r.
 Dec. long
 S 4-6' Cor. gnish. wh.
 W V Dr. red
 H ripe 4', fr. 12'
 H₂ Per. pinkish-r

May 11 deep woods, valley of Rio, Apurimac, near Kimpituri 4000m.

thickets

deep woods

thickets
 deep woods

- 23041 *Renealmia*
 2 Mushroom
 3 Rub.
 4 ~~Saba~~ *Cordia nodosa*
 5 Hep.
 6 Fungus
 7 Gall
 8 ?
 9 ?
 50 *Vanilla*
 1 Acanth.
 2 *Ternstroemia*
 3 "Cuba de almedon"
 4 *Erythrina*
 5 *Solanum*
 6 *Adiantum*
 7 *Clidemia*
 8 *Gladiolus*
 9 *Isodon*
 60 *Polypodium*
 1 *Sorocea*
 2 *Tresina*
 3 orchid
 4 *Peperomia*
 5 *Malvaceae*
 6 orchid
 7 orchid
 8 *Lidex*
 9 moss
 70 moss
 1 *Synopterus*
 2 *Pichonia*
 3 *Myrocarpa*
 4 *Piper*
 5 *Monochaetum*

- H Per. or.
 On dec. log
 T slender 10-15' Dr. wh.
 T slender 8-12' Co. whitish.
 On bark
 On fallen tree
 On leaf
 S slender, erect 5-12' Dr. deep gr.
 S 8-12' light Dr. gr.
 HV climbing over trees Foliage only. Cor. tube w, lobes gr.-w.
 H ± 1 ft. Cor. tube w, lobes gr.-w.
 H 3-4' Per. pink
 S 3-5' with long br.
 WV over tree tops Pet. or-
 H 3-4' cor. pink w, ant. y.
 H 10-15' fr. dull r.
 H V cor. l.o.; ant. y.
 H cor. o.r.; pal. y.; ant. w.
 H ep.
 H 10-12'
 T
 HV ± woody, tufl. greenish wh
 H ep. per. sep. deep. y.
 H ep.
 S 10-15' pet. not p.
 H ep. per. sep. greenish y. spotted
 H ep. with p.
 H ep. per. sep. y. g.
 on fallen T.
 " " "
 " " "
 H stipe 3-5'; fr. 2-4'
 E 12-18'
 T 10-15'
 S 4-6' pet. w.

May 11 deep woods, Valley of Rio Apurimac, near Kimpitirichi 4000 m.

Growing in colonies, but rare.

In paths

14 deep woods

Pl 5 11-12

Estrella, valley of Rio Pien 5000 m.

- 23076 *Ischnanthus*
 7 *Asplenium*
 8 *Asplenium*
 9 *acanth*
 80 *Isachne*
 1 *Commelina*
 2 *Rhipia*
 3 *Browallia*
 4 *Baselia*
 5 *Physalis*
 6 *Clonelia*
 7 *Phenax*
 8 *acanth*
 4 *acanth*
 90 *Miconia*
 1 *Calliandra*
 2 *strobilac.*
 3 *Solanum*
 4 *Lianthura*
 5 *Hemidion*
 6 *Splachnaceae*
 7 *Penstemon*
 8 *Euphorbia*
 9 *Scorjaria*
 100 *Cestrum?*
 1 *Centaurea*
 2 *Miconia*
 3 *guerr.*
 4 *rub.*
 5 *Rubus*
 6 *Abutilon*
 7 *guerr.*
 8 *Cassia*
 9 *Blechn*
 10 *Ischnanthus*

H climbing among shrubs.

H
 H 1-2' cor. br. r.
 H with drooping
 H 3-5' per. w. p. tinged
 H with lax fr. becoming deep pur.
 H branches, pet. p.
 H cor. tube + lobes light blue
 H without tube w. in, lobes
 H leaves bracts lg. r. cor. light y.
 H densely beneath fruit black.
 H 3-4' at base, cor. cream w. pur. spotted within at base; d. w.
 H fr. cream, ant. green.

W. U.
 S. 8-15'
 H cor. br. y.
 S. 5-8' cor. deep p.
 S. 12-18' fr. rich p.
 S. 8-10' with elong. sta. rich p.
 S. 4-6' drooping branches
 S. 4-6' leaves pur. below.
 S. 4-6' pet. w. ting. with blue.
 S. 5-10' ant. pale y.
 S. cor. rich p.
 H growing in dense thickets,
 H up to 10' h. cor. rich p.

W. U. or S. with
 W. U. along bran.
 S. with elong. pet. green w.
 S. droop. bran. pet. w.
 W. U.
 W. U. or S. with
 W. U. tang. leafy bran.
 S. 5-8' with bracts deep p.
 S. elong. bran. pet. deep p. fr.
 H with + scandent very thick.
 H branches cor. rich p.
 H cor. w.
 H U. pet. w.
 W. U. pet. y.
 S. 3-6' with
 S. elong. bran. cor. rich p.
 H
 S. 8-12'
 H stem per. sep. rich pur.
 H to 3' infl. green w.

May 14 deep woods

Estrella, valley of R River 500 m.

thickets

blue in.

d. w. thickets

750 m. Arica

open hillside

23111 *Teramnus*2 *Tripterus*3 *Mikania*4 *Rhexia*5 *Phaseolus*6 *Solanum*7 *Cecropia*8 *Solan.*9 *Conaria*20 *Crotalaria*1 *Eupatorium*2 *Solanum*3 *Cypripis*4 *Miconia*5 *Boerhaavia*6 *Solanum*7 *grass*8 *Viburnum*4 *Vernonia*30 *Elaphoglossum*1 *Elaphoglossum*2 *Viburnum*3 *Moss*4 *Utricularia*5 *Polypodium*6 *Palicourea*7 *Orchid*8 *Orchid*

9 ?

40 *Polypodium*1 *Thibaudia*2 *Lichen*

3 "

4 "

5 "

HV

H

HV

H

HV

H

H

S

S

S

S

S

S

H

H

S

T

H

T

S

H

H

T

On bank

H

H

T

H

H

T

H

S

EH

EH

EH

On tree tr

pet. pink. w.

cor. & sty. green. w.

pet. rich p.

slan. & mag. & keel bl.

stamen tube. w.

cor. pink blue; ant. y.

cor. deep p.

w. pl. g.

cor. tube pink. g., lobes p.;

sty. pale p.

cor. w. bl. spotted without;

ant. y.

cor. w.

fr. black

cor. cream-w; fr. black

cor. tube w, lobes & sty pinkish

cor. cream-w; fr. black

cor. pi; fr. gr.

Tr. gr.

5 seg cr-w, lip pink & spotted

Tr. gr.

Tr. only

Cor. s.; fr. gr.

May 14

Flecheta

open hillsides

Chuchto

750 m.

Aina

woods

o.h.

15 thickets

900 m.

shaded bank

woods

shaded bank

open woods

1000 m.

- 23146 Lichen - - On tree tr.
 7 " " " branches
 8 Hep " " "
 9 Lichen " " "
 50 Orchid EH Seg. grass-gr.
 1 " EH 3 seg. grass-gr.; lip. col. deep red
 2 " EH Seg. light gr., lip. purp. apex
 3 " EH Seg. light gr., lip. wh. dist. col. with r.-band ~~at~~ tow. apex
 4 " EH Seg. y-g, semitransparent
 5 " EH Seg. light gr., lip. darker, col. paler
 6 " EH Pr. gr.
 7 " EH Seg. pinkish-br. (withered) lip. gr.; fr. 21.
 8 " EH Seg. light gr.; col. light y-g red-dotted
 9 " EH Seg. pinkish-r., gr. at base & margin.
 60 " EH Band gr.
 1 " EH Bracts gray
 2 " EH Seg. pi.-br. (withered)
 3 " EH " " "
 4 " EH Seg. light gr., lip. deep r. ^{upper} 1/2
 5 Laelia H ter 5 seg. pinkish-w, 2 smaller faintly col. purp.
 6 Orchid H base of tree No fls.
 7 " H base of tree
 8 " H base of tree 2 seg. grass-gr., finely purple dotted; 2 seg. lip deep "
 9 " H ter Seg. brownish (withered)
 70 Mushroom On dec. log Cream-wh. above, wh. beneath.
 1 Fungus " " " Brownish
 2 Viburnum + 12-20' Pr. black
 3 Borreria H ± 1' Cor. wh
 4 Polypodium H ^{rep. among} rocks
 5 Asplenium H woody at base
 6 Pteris H ± 2-3' Infl. green
 7 Selaginella On soil.
 8 Hep On dec. log.
 9 Moss On dec. log.
 80 Polypodium H

May 15 Ofar woods

1000 m. China

- 23181 Cassia S 5-7' Fr. only
 2 Serjania WV Pet. ^{cream} w.
 3 Orchid H ter Brds deep y-g
 4 Grass H to 5'
 5 Hyptis H Cor. tube pink-w, lobes pi.
 6 Bidens H Rays bright y; fl. gr.-y.
 7 Orchid H ter Seg. y-g
 8 Momina H ^{4'} Pet. ~~dark~~ bright blue
 9 Cracca "cube"; "muthy cube" S 3-5' Fr. only
 10 Carica papaya T Fls. cream-wh.
 1 Moss On bank
 2 Marchantia " "
 3 Citrus T 15-20' Fr. very sweet, few seeds
 4 Inga T 3-40' Stamens wh.; pi. tinged, some
 5 Cissampelos HU upl. pink. fl. g. w.
 6 Sapindus 1 5-20' with flowers wilted
 7 Melothria 1 1' drooping upl. fr. g., w. mottled
 8 Lycopodium 1 12-15' cor. green, ant. dull r.
 9 Psidium 1 on dry bank per. seg. w.
 200 Hepatic. H ter
 1 Orchid on tree
 2 Lichen S 8-12' base of upl. y.; cor. green y.
 3 Psychotria S cor. o.r.
 4 Gesneria S 12-15' bracts r.; cor. light y
 5 Saulecia S on moist bank
 6 Rhipidoptera H ter
 7 Peperomia H up to 3' cal. tube green w, lobes r
 8 Gesner. S 8-15' cor. ~~dark~~ tube deep r, lobes g.
 9 Cavendishia S as quest
 10 Hymenophyllum H banks
 1 Lichen on moist bank
 2 Roymania H " " pet. w.
 3 Moss on " "
 4 Weinmannia S 12-20' or low l.
 5 Hydrocotyle H repeat pet. green w.

May 15 ^{Edge of} ~~Open~~ woods

100m. Ana

open hillside

2

May 16 thickets

800m.

Cultivated

A-97 Pl-K

A-98 Pl-K

open hillside

Cultivated

B-2 Pl-K

yard
17 thickets

shaded banks

thickets wood.

open hillside

rocky bank

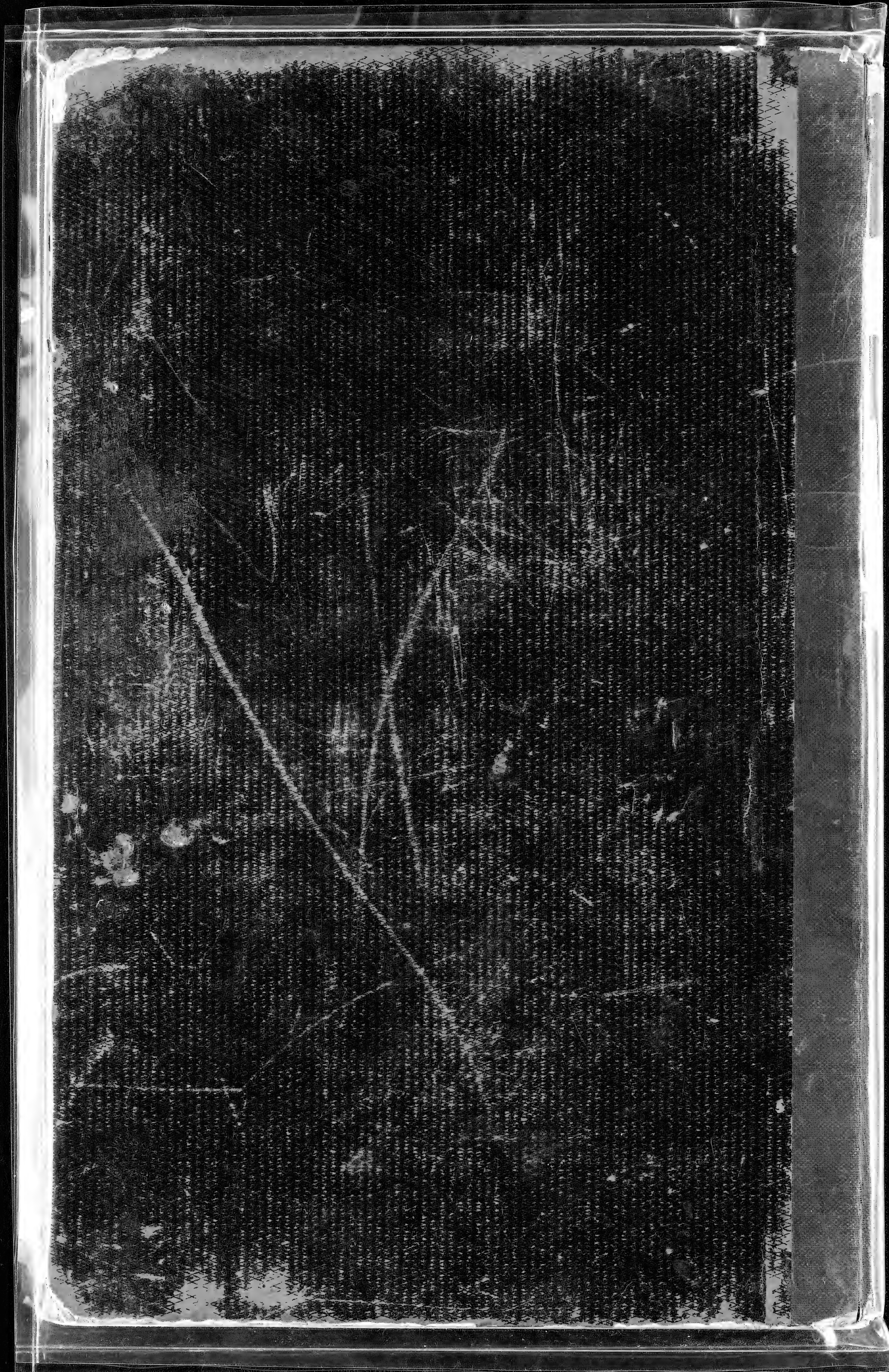
~~thicket~~ edge of woods

1000m.

(Cecropia)

deep woods

edge of woods



1842 - 1843

Part 1 /

1 - 1

Collection from Jamaica Ellsworth - 41111 .

- 1 - 8. Kingston-Rockfort Road. 2/15/16.
9 - 15. South Camp Road, Kingston. 2/15/16.
16- 20. Kingston-Rockfort Road. 2/15/16.
21- 23. Along streets, Kingston. 2/14/16.
23- 24. Kingston-Rockfort Road. 2/15/16.
25- 28. Long Mountain, Kingston. 2/17/16.
49- 60. Spanish Town Road. 2/18/16.
61- 71. R. R. tracks to 3 miles west of Kingston. 2/18/16.
72. Spanish Town Road. 2/18/16.
73- 80. R. R. tracks to 3 miles west of Kingston. 2/18/16.
81- 82. Shore of Hunts Bay. 2/18/16.
83- 85. (do. 76-80)
86- 88. Shore of Hunts Bay. 2/18/16.
90- 94. (do. 73-80)
95-101. Papine. 2/20/16.
102. Streets of Kingston. 2/20/16.
103-128. Papine-Gordon Town Road. 2/20/16.
129-145. " " " " and hills. 2/21/16.
147-151. Kingston streets. 2/22/16.
152-154. Road near Guava Ridge. 2/23/16.
155-203. Cinchona; along fairly open trail for about three miles east from house. 2/24/16.
204-219. Cinchona: about two miles along Morce's Gap trail. 2/24/16.
220-257. Cinchona: on trail to Sir John's Peak (5000-6100 ft) 2/25/16.
258-273. Cinchona: near buildings. 2/26/16.
274-275 (do. 204-219)

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* * * "Now, as for a personal expression of opinion as to our affiliating with the Republican Party at this time, and the argument that we are so weakened that we cannot hope to win, that if we go back en masse to the Republican Party we can reform that Party from within and accomplish the undoing next year of the bosses and reactionary tendencies of that organization. To my mind, this is such an absurd proposition that it hardly requires an argument against it. If there had been during this year or any time since 1912 any indication that the owners of the Republican Party had, in the slightest degree, recognized their errors and reactionary inclinations, then the question of returning to that Party might be a debatable one, but every one of us knows that they have shown no such inclination, and, on the contrary, wherever they have had a chance, have been more reactionary than ever. In States like Massachusetts, New York and Ohio, this has been especially true. If, therefore, we returned to the Republican organization, we would return on notice, by which I mean we would return with our eyes open and formally notified that the men in control of that Party proposed to continue the reactionary methods and policies. This being so, whatever they do in their National Convention of next year, either in the matter of a platform or candidates, those Progressives returning to that organization would be in honor bound to accept and support it. Indeed, the very fact of our returning now, with all the things that the Republican Party has done since 1912, would have to be construed as endorsing all these actions, and as a complete surrender on our part and an acknowledgment that we were wrong in 1912, and would knuckle under and obey the men whom we have up to date denounced. The Republicans next Winter will be led at Washington in the Senate by Boies Penrose and in the House by Joe Cannon. Mr. Penrose has only within the last four or five days publicly announced that he will next Winter introduce a tariff bill, based on modifications of the Payne-Aldrich bill. One of the strongest planks in our 1912 platform is a plank declaring for an independent, non-partisan Tariff Commission. An organization has been formed in Chicago of a non-political nature, to arouse public opinion in favor of a bill to be passed next Winter by Congress, creating such a Commission. The Democrats are inclined to support such a bill, and individual Democrats who have been approached to support this Chicago organization have agreed to support it, while Republicans are taking the position that they do not want to support a movement for a Tariff Commission created by the Democrats next Winter because it will rob them of their great campaign argument next year. What they want is to get back into power and revise the tariff themselves on the old log-rolling political basis. How can our people, in view of our position on the tariff and such notice as this of Republican intention, deliberately leave our Party now and enroll with the Republicans?

"On the other hand, the Democrats are showing some indication of being in favor this next Winter of the Tariff Commission. They have at least taken a tiny little bit of a step in our direction on the great trust and corporation question. In this State the Democrats have given us the only social justice legislation that has been enacted, while the Republicans have since tried to nullify that legislation. You all know that personally I am opposed to Democratic rule, that I have not approved of President Wilson's policies. No one can accuse me of leanings in that direction, but as matters stand today, it would be more easy to make an argument for our affiliating with the Democrats than it would with the Republicans.'

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2.

- 276-306. Cinchona: Morce's Gap. 2/27/16.
307-328. Cinchona: (do. 220-257) 2/28/16.
329-331. 3 miles east of Guava Ridge. 2/29/16.
332-337. Content trail, near Yallis River. 2/29/16.
338-345. A. R. tracks to 3 miles west of Kingston. 3/3/16.
346-349. Hunts Bay shore. 3/3/16.
350-366. Road to Newcastle. 3/5/16.
367-368. Cinchona: Sir John's oak trail. 2/28/16.
369-393. Road to Newcastle. 3/5/16.
394. R. R. yards, Kingston. 3/3/16.
395-404. Roadside, Ewarto. 3/6/16.
405-453. Roadside, Ewarton: hills, and in deep ravine in Mt. Diabolo-Hollymount region. 3/7/16.
454-487. Hollymount, generally on side towards Moneague. 3/10/16.
488-503. Ocho Rios Road, St. Ann's Bay. 3/9/16.
504 Moneague. 3/8/16.
505-509. St. Ann's Bay: along shore west of village. 3/9/16.
510-518. Moneague. 3/8/16.
519-524. Ewarton. 3/8/16.
525-527. St. Ann's Bay: coconut grove west of village. 3/9/16.
528-529. Cinchona: 5000 ft. 2/28/16.
531 Hunts Bay: 3/3/16.
534-537. Port Antonio: roadsides. 3/14/16.
538-540. Port Antonio: along shore. 3/14/16.
541-542. San Juan, Cuba. 3/15/16.
543-544. Santiago de Cuba. 3/15/16.

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5.

- 547-548. Port Antonio: cemetery. 3/14/16.
- 549-555. Hollymount-Mt. Diabolo region. 3/3/16.
- 556-557. St. Ann's Bay: cocoanut grove. 3/9/16.
- 558 Papine. 2/20/16.
- 559-562. R. R. tracks, about 2 miles west of Kingston. 3/3/16.
- 563 Content trail near Yallahs River. 2/29/16.
- 564 Hunts Bay shore. 3/3/16.
- 566 Locality missing.
- 567-568. Cinchona. 5100 ft. 2/28/16.
- 571 St Ann's Bay: beach. 3/9/16.
- 578-580. Hollymount 3/10/16.
- 582 Cinchona: near house. 2/29/16.
- 583 Kingston streets. 3/11/16.
- 587 Papine. 2/21/16.
- 589 Kingston streets. 3/11/16.
- 591-594. Ewarton. 3/8/16.
- 596 Near Yallahs River. 2/29/16.
- 597-599. Hollymount. 3/10/16.

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20a

2608. Clay banks, Juan Diaz, 10/18/17

Letter of Feb/ 12

2633. Juan Diaz jungle, 10/25/17

2640. Am sending additional material/

2689. Am sending the best I have. On a trip to this place Mar. 10 I found the plants all dried up. Will make another trip there soon and look more thoroly for more. I should be greatly pleased if you name it as you suggest.

2692. Am sending more material with some measurements. Have not been able to find younger fertile fronds. There are several specimens of this fern but most are not yet fertile/ Two or three specimens were of such height that it was impossible to collect material.

2706. Good material of this is hard to find (unless it is the same as 2787). I am sending one more plant, however.

2711-2720. I located this Anemia patch too late to get the fertile fronds in fine condition.

2610. Am sending a series of this. I collected many of this type in Bequete and will send later.

2734. I have no better material on hand. This specimen was found along the Tapia River near its mouth and in a very inaccessible spot. It may be that I can visit it again however/

2745. I am sending another frond. I believe I have sent the rhizome.

2746. See 2787.

2753; 2776. Sending specimens; will try to get more/

2782. Just one plant of this was found. This had four perfect and ^{two} ~~to~~ fragmentary fronds. Mrs/ Corman, Miss Colburn and I each had one and I sent you the fourth.

Hope I can find more.

2787. I am sending a plant collected in the same locality on March 10.

2810. Am sending the best I have.

2828. Sending an extra frond of this.

2832. I am sending you some additional material. I expect to make a trip to
Frijoles before returning and will gather more of this.

The label reading 2744 should read 2742.

16211

16212

16213

16214

16215

16216 *Panicum glutinosum* Swartz
Gramineae

16217

16218

16219

16220

16221

16222

16223

16224

Copy - 1254

1 - 504
 700 - 793
 794 - 1299
 1300 - 1801
 1802 - 1960
 2000 - 2449
 2500 - 5503
 5504 - 6710

1212	24-39
1215-17	41-44
"	245-249
"	50-82
"	298-330
"	34-110
1917-17	10-255
1915-19	202-276

1-5

September 1915

2-25

1-41

W. 11

1915

24-25

45-110 (flank)

101-330

W. 8

1916

2-9-

347-357 (flank)

350-353

W. 2

1916

83

400-456

W. 2

1916

34-35

457-497 (flank)

570-530

W. 2

1916

83

500-550 (flank)

550-554

W. 2

1916

25-12

600-618 (flank)

702-713

NE 23

1916

40-41

994-1299

" "

1916

275-290

1300-1692

" "

1916

84-78

1693-1799 (flank)

1700-1861 (flank)

W. 2

1916

30-52

1700-1710

" "

1916

215-301

1961-1999 (flank)

2300-2499

" "

1916

54-112

2500-2934 (flank)

2935-2999 (flank)

3000-3476

"

1917-18

150-181

3477-3499 (flank)

3500-3650

"

1917-18

152-174

3651-3999 (flank)

4000-4358

"

1917-18

172-214

4359-4499 (flank)

4500-4590

"

1917-18

215-219

4591-4999 (flank)

(flank)

5500-5503 Panama 1905 222-255
5524-5990 (black)
5991-6210 NEUS.FG, France 1915-19 222-276

16210

16209

16208

16207

16206

16205

16204

16197

16198

16199

16200

16201

16202

16203

- Copy -
Book 1
- 4 = Roadsides
 B = Dry fields
 Y = ~~Deep~~ dense forests
 Δ = Open woods
 ♡ = Exposed rocky hillside
 λ = Dry, grassy hillside
 H = ^{Clay} Banks of small streams
 [^] in dense forest
 \ = Along rivers in dense forest
 ~ = ^{deep,} wet ravines in dense forest
 ⊗ = On trees, dense wet forest
 € = Dry savannas
 o = Wet meadows
 Ω = Low, marshy ground near coast
 ± = On rocks in river course
 Π = Rocky banks of stream
 ⊕ = On trees, dense forest
 (Many epiphytic ferns are merely
 recorded as growing in dense
 forests Y).

12/4/29 Grassie ordered
for these dates, yet
made,

5063

5170

5038

5273

5049

5306

5150

5307

5367

5136

5391

5124

5429

5128

5435

5156

5457

5107

5472

5191

5478

5157

~~5479~~

5137

5463

5207

5454

5238

5248

5263

Data for Boquete flowering plants.

- 3500-01. Roadsides, El Boquete, 1300 m., 2/4/18.
3502-09. " " " " 2/5/18.

Along Rio Caldera 1-2 miles above Boquete
Alt. 1300-1350 m., 2/5/18.

3510. Fields.
3511. Rocky cliffs.
3512-14. On fallen trees.
3515. Rocky cliffs.
3516. Grassy shores.
3517. Rocky cliffs.
3518. Fields.

Holcomb's trail 6-8 miles above El Boquete,
1400-1550 m., 2/6/18.

- 3519-20. On wet trees.
3521. Dense forest.

Monniche trail, Chiriqui Volcano, 1500 m.,
2/6/18.

3522. Fields.
3523. Wet trees.

- 3524-26. Fields near El Boquete, 1400 m., 2/7/18.
3527-33. Woods along Griffen's trail, Horqueta Mts.,
1700 m., 2/8/18.
3534-36. Dexter trail, El Boquete, collected by C. P. R.
1500 m., 2/8/18.
3537-38. Deep woods, Valley of Rio Piamasta, 1500 m.,
2/10/18.
3539. Wet mossy rocks, Rio Piamasta, 1500 m., 2/10/18.
3540. Deep woods, Valley of Rio Quebada, 1700 m.,
2/8/18.

Holcomb's trail along Rio Caldera 2-10 miles
above Boquete, 1400-1650 m., 2/11/18.

- 3541. Open roadsides.
- 3542-43. Deep woods.
- 3544. Banks of stream, dense woods.
- 3545. Dense woods.
- 3546. Humid forest.
- 3547-48. El Boquete; open woods; 2/13/18.
- 3549-51. " " deep " 2/14/18.

El Boquete, Alt. 1450 m., 2/14/18.

- 3552. Open woods.
- 3553. " "
- 3554. Rocky cliffs.
- 3555. Dead logs.
- 3556-57. Wet meadows.
- 3558-61. Humid forest, near Camp I, Holcomb's Trail, 1650-1800 m., 2/15/18.
- 3562. Humid forest, near Camp I, " " 1650-1800 m., 2/17/18.
- 3563. Clearing near Camp I, " " 1650-1800 m., 2/18/18.
- 3564-67. Wet, intensely humid forest of the Cordillera above Camp I, 1800-2100 m., 2/18/18.
- 3568. Rocky cliffs, El Boquete, 2/23/18. 1300 m.

Piedro de Lino, 1400-1600 m., 2/24/18.

- 3569-70. Fields.
- 3571-72. Fallen logs.
- 3573. Open woods.
- 3574-75. Exposed barren rocky summit.
- 3576. Deep woods; Valley Rio Planasta, 1500 m., 2/25/18.
- 3577. Wet meadows; " " *Panadero* " " "
- 3578-81. Rocky banks of stream near Aquacatal Camp, Chiriqui Volcano, 2300 m., 2/26/18.
- 3582-83. Dry woods, Chiriqui Volcano, 2300 m., 2/27/18.
- 3584-86. " " " " 2450 " 2/27/18.
- 3586-90. Camp Cañassa, 2500 " 2/27/18.
- 3591-92. Above Potrero Camp, 2900 " 2/27/18.
- 3593-3600. Rocky summit, Volcane, 3600 " 2/27/18.

3601. 3300 m., 2/27/18.
3602. Near Potrero Camp, 2800 m., 2/27/18.
3603. " " " 2600 " 2/28/18.
3604. " " " 2200 " 2/28/18.
- 3605-06. " " " 1900 " 2/28/18.
3607. Roadsides, Boquete 1350 " 2/28/18.

1-2 miles south of Boquete along Rio Caldera
1250 m., 3/1/18.

3608. Roadsides.
- 3609-13. Open woods.
- 3614-25. Wet meadows.
- 3626-27. Roadsides. 3/2/18.
3628. Wet meadow. "
3629. Field. "
- 3630-32. Wet meadow. "
3633. Roadsides. "
3634. Wet meadow. "
- 3635-36. Batia River; E. Chiriqui, 3/5/18.

Boquete, 1250 m., 3/3/18.

3637. Open woods.
3638. Roadsides.
3639. Open woods.

----- DATA FOR BOQUETE GRASSES & SEDGES -----

- 4500-04. Railroad track, David, 2/4/18.
 4505-07. Roadsides, Boquete, 2/5/18.
 4508-09. Fields, " "
 4510. Open woods, Rio Caldera, 1-2 miles above Boquete, 2/5/18.
 4511-12. Rocky cliffs. " " " " " "
 4513-15. Gravelly banks of streams (same as 4511-12)
 4516. Deep woods " " " " 2/6/18.
 4517-22. Fields near Lino Boquete, 2/7/18.
 4523-25a. Clearing in deep woods, Rio Piamasta, 2/9/18.
 4526-27. Dry roadsides, Boquete, 2/11/18.
 4528. Rocky shores of river, Rio Caldera above Boquete, 2/11/18.
 4529-30. Open woods along Rio Caldera, 2 miles " " 2/14/18.
 4531-34. Wet meadows, O'Donnell Ranch, " " " " 2/14/18.
 4535. Rocky cliffs, 1575 m., 4 " " " 2/15/18.
 4536-38. Clearing at Camp I, Holcomb's Trail, 1650 m., 2/17/18.
 4539-40. Clearing near Big Falls of Piamasta, 1550 m., 2/22/18.
 4541. Rocky cliffs, Boquete. 2/23/18.
 4542. Roadside, Lino Boquete. 2/24/18.
 4543-44. Open woods, Piedra de Lino, 2/24/18.
 4545. Fields, " " " 2/24/18.
 4546-47. Rocky banks of stream near Aguacatal Camp, 2300 m., 2/26/18.
 4548-50. Sandy soil, El Potrero Camp, 2900 m., 2/27/18.
 4551-53. Rocky summit of Volcano, 3600 m., 2/27/18.
 4554-55. Dry woods, Chiriqui Volcano, 2100 m., 2/28/18.

1-2 miles south of Bajo Boquete, 1250 m.

3/1/18.

4556. Open woods.
 4557-60. Fields.
 4561-62. Wet meadows.
 4563-65. Fields.
 4566. Wet meadows.
 4567. Fields.
 4568-75. Wet meadows.
 4576. Roadsides.
 4577-79. Wet meadows?
 4580. Wet meadows. 3/2/18.
 4581. Fields. "
 4582-87. ~~Fields~~ Wet meadows 3/2/18.
 4588. Fields.
 4589. Grassy shore, Batia Bay, eastern Chiriqui. 3/5/18.
 4590. Wet meadows. Bog. 3/2/18.

5000-5400

Rio Caldera, 1 to 2 miles above Lino Boquete, Alt.

1250 m. Date 2/5/18.

- 5000. Shady banks of trail.
- 5001. Open woods.
- 5002. Climbing over boulders.
- 5003. Open woods.
- 5004. Deep woods.
- 5005. On wet trees, deep woods.
- 5006-8. Rocky cliffs.
- 5009. On trees, deep woods.
- 5010-11. Rocky cliffs.
- 5012. Deep woods.
- 5013. Rocky cliffs.
- 5014. On trees, deep woods.
- 5015-19. Rocky cliffs.
- 5020. Woods.
- 5021. On fallen logs, partly in water.
- 5022-24. Rocky banks along trail.
- 5025. On trees.
- 5026. Rocky cliffs.
- 5027. Wet trees, deep woods.
- 5028. Rocky cliffs.
- 5029. On boulders in open woods.
- 5030-34. Rocky cliffs.
- 5035-36. Deep woods.
- 5037-39. Wet trees, deep woods.
- 5040-44. Deep woods.
- 5045- Gravelly stream bottoms.

Holcomb's Trail, deep forest along Rio Caldera

8 to 10 miles above Lino. Alt. 1400 to 1550 m.

2/6/18.

- 5046-49. On wet trees in deep woods.
- 5050. Very dense woods.
- 5051-52. Wet trees in deep woods.
- 5053-54. Deep woods.
- 5055-56. Wet mossy cliffs.
- 5057-61. Deep wet woods.
- 5062-65. Wet fallen logs, humid forest.
- 5066-67. Wet trees in humid forest.
- 5068. Wet mossy cliffs.
- 5069-70. Humid forest.
- 5071. On trees in wet forest.
- 5072-74. Humid forest.
- 5075-79. On wet trees, humid forest.
- 5080. Deep woods.
- 5081. On trees, deep woods.

5082-91. Very deep woods. Between Holcomb's Trail and Monniche plantation, 1500 to 1725 m., 2/6/18.

5092. Twining up trees, open trails, Iglesia Boquete, 1400 m. 2/6/18.

5093-94. Roadsides, Iglesia Boquete, 1400 m. 2/6/18.

5095. Open woods, Boquete, 1275 m., 2/6/18.

Along Griffen's Trail, Horqueta Mts., 1675-1735 m., 2/8/18.

5096-97. Humid forest.

5098. Fallen trees, deep forest.

5099-5103. Wet trees in humid forest.

5104. Humid forest.

5105-06. Wet trees, humid forest.

Cerro de Pelona, 1750 m., 2/8/18.

5107-08. On wet trees.

5109-11. Deep woods.

5112. Open woods.

5113-14. Wet trees in deep woods.

5115. Fallen logs.

Valley of Rio Quebrada, 1650 m., 2/8/18.

5116-24. Humid forest.

5125-27. Open woods.

5128-32. Wet trees.

5133-36. Deep woods.

5137. Open trails.

Valley of Rio Piarnasta, 1525-1550 m., 2/9/18.

5138. Open trails.

5139. On fence in open woods.

5140-41. Open woods.

5142-47. Deep woods.

5148. On fallen trees, deep woods.

5149-50. On tree along open trails.

5151-52. Humid forest.

5153. On trees, humid forest.

5154. Open woods.

Valley of Rio Piarnasta, 1525-1575 m., 2/10/18.

5155-56. Rocky banks of river.

5157. Deep woods.

5158. On trees, deep woods.

5159-65. Very dense forest.

5166-67. On trees, dense forest.

5168. Deep woods.

Holcomb's Trail, 6-10 miles above Lino Boquete,

Alt. 1400-1600 m. 2/11/18.

- 5169. Deep woods.
- 5170. Rocky cliffs.
- 5171. Deep woods.
- 5172. Gravelly stream-bottoms, exposed.
- 5173. Deep woods.
- 5174. Rocky cliffs.
- 5175-81. Deep woods.

- 5182. On trees in deep woods.
- 5183. Deep woods.
- 5184-87. Along rocky banks of streams.
- 5188-91. Humid forest.

Holcomb's Trail, Upper Caldera River, 10-11 miles

above Boquete, 1625 m. 2/11/18.

- 5192. Wet mossy cliffs.
- 5193. Rocky banks of stream.
- 5194-96. Mossy rocks in river.
- 5197. Rocky banks of stream.
- 5198-5201 " " " "

Holcomb's Trail, 8-10 miles above Lino Boquete:

1400-1550 m. 2/11/18.

- 5202. Climbing tree trunks, humid forest.
- 5203. On trees.
- 5204-08. Humid forest.
- 5209-10. On trees, humid forest.

El Boquete, 1300 m. 2/14/18.

- 5211-13. Open woods.
- 5214. Along stream, open woods.
- 5215. Dry rocky cliffs.
- 5216. Open banks of Rio Caldera.
- 5217. Wet meadows.
- 5218-19. Wooded banks.
- 5220. Along streams.
- 5221. Sandy shores of streams.

Holcomb's Trail, 10 miles above Lino Boquete,
Camp I. 1625-1650 m. 2/15/18.

- 5222-23. Humid forest.
 5224-25. Wet mossy banks.
 5226-28. On trees, humid forest.
 5229-34. Humid forest, south of Camp I.
 5235. Clearing Camp I.
 5236-38. Wet trees, humid forest, south of Camp I.
 5239. Dense, open thicket, Camp I.
 5240. Humid forest.
 5241. Wet rocks and logs.
 5242-48. Humid forest.
5249. Trees along open trails, Dexter trail. 1500 m.

Holcomb's Trail near Camp I, 1650 m. 2/17/18.

- 5250-56. Dense woods.
 5257. On trees, borders of woods.

Cordillera above Camp I. along an old hunting trail opened up by guides. Course lay north from Camp I, up 400-500 m. east along the Cordillera for 1 mile, then down Atlantic side for some 50 m. Forest was uniformly dense, intensely humid with bubbles of yellowish water dripping from the moss and ferns.

5258-5285.	1650-1800 m.	2/17/18.
5286-5305.	1800-2000 m.	"
5306-5320.	1900-2100 m.	2/18/18.
5321-5333.	2100-2150 M.	2/18/18.
5334-5335.	Near Camp A, 1625 m.	2/18/18.

Holcomb's trail from Camp I. to summit of Cordillera and 3 miles down on Atlantic side. Humid forest, less than above the. Alt. as indicated.

5336-5346.	1675-1800 m.	2/19/18.
5347-5358.	1800 to summit	2/19/18.
5359-5367.	Summit to ? Atl. side.	2/19/18.
5368-5370.	" " 1675 m.	2/19/18.
5371.	Borders of woods near Camp I. 1700 m.	2/19/18.
5372.	Humid forest near Camp I. 1700 m.	2/19/18.
5373-75.	On fallen logs in clearing near Camp I.	1700 m. 2/19/18.

Valley of the Rio Piamasta 1550-1650 m. 2/22/18.

- 5376-82. Dense woods.
- 5383. Clearing near Big Falls.
- 5384. Fallen trees, deep woods.
- 5385. Deep woods.
- 5386. Climbing trees, deep woods.
- 5387. On trees.
- 5288-90. Clearing near Big Falls.
- 5391-94. Deep woods near Big Falls.
- 5395-96. On large wet boulders near Big Falls.
- 5397-5401. On large mossy trees, deep woods.
- 5402. Banks of small streams.
- 5403-04. Climbing over fallen logs.
- 5405. Tops of tall trees; deep woods.

- 5406. Trail up Volcano, coll. by I. W. Watson. 2/23/18.
- 5407-08. Rocky cliffs, Bequete, 1350 m. 2/23/18.

Piedro de Lino, 1400-1600 m. 2/24/18.

- 5409. On trees.
- 5410. On rocks.
- 5411. On fallen trees.
- 5412. On rocks.
- 5413. Open woods.

Valley of Rio Panduro, 1500 m. 2/25/18.

- 5414-5417. On dry tree trunks.
- 5418-20. Open woods.

Roballo Trail, from Rio Piamasta towards
Cordillera, 1600-1700 m.

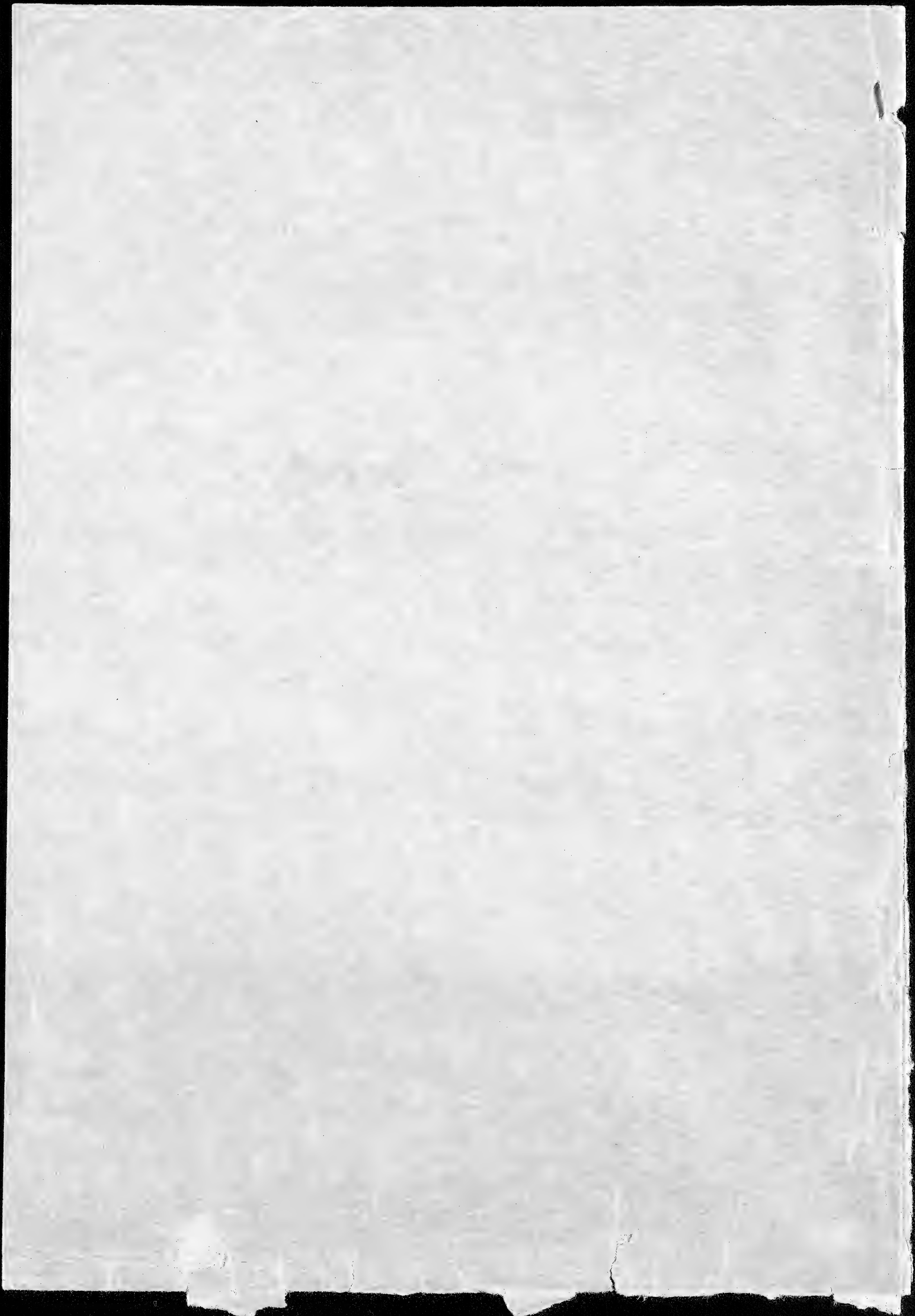
- 5421. Open woods.
- 5422-28. Dense forest.
- 5429-31. Climbing up trees, dense forest.
- 5432. Dry trees.
- 5433. Summit volcano 3600 m., J. W. Watson, 2/22/18.
- 5434-36. Rocky banks of stream near Aquacatal Camp, Chiriqui Volcano, 2300 m., 2/26/18.
- 5437-40. Dry woods, (same as 5434-36)
- 5441-42. Trail up volcano, 3400 m., 2/26/18.
- 5443. Same as 5434-36.
- 5444-47. Open woods. Camp Cañassa, Chiriqui Volcano, 2500 m., 2/26/18.

5448. Open woods, trail up volcano, 2550 m., 2/27/18.
 5449. Sandy soil, Potrero Camp, 2800 m., 2/27/18.
 5450-57. Dense dry woods above Potrero Camp. 2800-3100 m.,
 2/27/18.
 5458-61. Summit of Volcano, 3600 m., 2/27/18.
 5462-64. Dry woods. 3100 m., 2/27/18.
 5465. Dry woods. Aguacatal Camp. 2300 m., 2/28/18.
 5466-68. Dry woods. " " " "
 5469. Summit of Volcano, 3600 m., 2/27/18.
 5470-71. " " " 3000 " "
 5472. " " " 2600 " "
 5473. Rio Piapasta, M. A. C. 1450 m., 2/28/18.

Along Rio Caldera 1 mile below Boquete 1250 m.,
3/1/18.

- 5474-76. Open woods.
 5477-79. Wet meadows.
 5480. Open woods.
 5481-85. Wet meadows. 3/2/18.
 5486. Open woods. 3/2/18.
 5487-91. Open woods along Rio Caldera, 1-2 miles above
 Boquete. 1300 m., 3/3/18.

Philips - 1/2 fold
Complete - 1/2 fold
for - 1/2 fold
1/2 fold



Jacquemontia Sp.

3390
3355
3350
3345
3340

} all same sp

Panama

3441. *Spannercoa* Tenin

Lam.

3200. *Apeiba*

tubercosa

Aubl.

3340. *Jacq. pentantha*

G. Don

3353.

"

"

3413. *Cham. prostrata*

(Ait./Smut)

3263. *Schultesia heterophylla*

Miq.

3237

"

4538

Desmunda ~~*alt.*~~ *beperinata*

(Cav. / *Hyph*)

(advent)

✓ ?

also 5003

Desmunda
beperinata
advent

ST. BERNARD COLLEGE HERBARIUM
FLORA OF ALABAMA

Azalea alabamensis (Rehder) Small
Woods--widely distributed through-
out County

Cullman County, Alabama

May 14, 1939

Collector, W. Wolf **Morgan**

St. Bernard, Ala.

#

3150. *Hymenocallis*
littoralis Salisb.

3075. *Elaterrum*
ciliatum Cogn.

3397. *Fresia ciliata*
* L.

3074. *Pithecolobium*

~~30~~

EXPLORATION IN PERU

Dept. Loreto: San Antonio, on Río Itaya; alt. about 110 meters; dense forest

No. E. P. KILLIP }
A. C. SMITH } Collectors

September 18, 1929

Collected under the auspices of the Smithsonian Institution

- EVC Eleocharis set Sw.
 4533. retroflexa (Poir.) Urb.
 4091. nodulosa (Roth) (under
 Schmet. sulcata)
 4531. sulcata Nees
 4585 " " (under
 E. capitata)

EXPLORATION IN PERU

Dept. Junín : Tarma ; alt. 3000-3200 meters ; open hillside

No. E. P. KILLIP }
 A. C. SMITH } *Collectors* *April 20-22, 1929*

Collected under the auspices of the Smithsonian Institution

11 7163a

Carex brunnescens gracilior
Buckley

EXPLORATION IN PERU

Dept. Junín : Tarma ; alt. 3000-3200 meters ; open hillside

No. E. P. KILLIP } Collectors April 20-22, 1929
 A. C. SMITH }

Collected under the auspices of the Smithsonian Institution

K 6201

Cypræa cylindrica

(Eel-Breeder)

EXPLORATION IN PERU

Dept. Junín : Tarma ; alt. 3000-3200 meters ; open hillside

No. E. P. KILLIP } Collectors April 20-22, 1929
 A. C. SMITH }

Collected under the auspices of the Smithsonian Institution

K 1557

Carex stellulata sterilis
(Willd.) Carey

(under *C. canescens* distinct)

EXPLORATION IN PERU

Dept. Junín : Tarma ; alt. 3000-3200 meters ; open hillside

No. E. P. KILLIP }
 A. C. SMITH } *Collectors* *April 20-22, 1929*

Collected under the auspices of the Smithsonian Institution

IK 1345-

Carex brunnescens sphaer-
stachya
(Desv.) Kuhn.

(not *C. triperma*)

EXPLORATION IN PERU

Dept. Junín: Tarma; alt. 3000-3200 meters; open hillside

No. E. P. KILLIP } Collectors April 20-22, 1929
 A. C. SMITH }

Collected under the auspices of the Smithsonian Institution

K 1522

Carex vesicaria L.

EXPLORATION IN PERU

Dept. Junín : Tarma ; alt. 3000-3200 meters ; open hillside

No. E. P. KILLIP }
 A. C. SMITH } *Collectors* *April 20-22, 1929*

Collected under the auspices of the Smithsonian Institution

K 1529

Carex lundula gracilis Boott

EXPLORATION IN PERU

Dept. Junín : Tarma ; alt. 3000-3200 meters ; open hillside

No. E. P. KILLIP } Collectors April 20-22, 1929
 A. C. SMITH }

Collected under the auspices of the Smithsonian Institution

1910-10-

Carex pedunculata (Desv.) Britton

(under *C. communis*)

EXPLORATION IN PERU

Dept. Junín : Tarma ; alt. 3000-3200 meters ; open hillside

No. E. P. KILLIP } Collectors April 20-22, 1929
 A. C. SMITH }

Collected under the auspices of the Smithsonian Institution

Let. Sum

Send the 13

4001 should be 5341 *Asplenium*
uniseriale Radd.

Originally there were 2 sp. for 4001

Day. *Lichium* remains 4001 & *A. uniseriale* was
given name of 5341.

Polypodium vulpinum Linden.

rupicola C. Chr.

Polypodium.

NATIONAL
REVIEW

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New York, N.Y. 10016

FIRST CLASS MAIL



2679

S S SMITH 3RD
~~GENERAL DELIVERY~~
WILLIAMSBURG VA

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1965

~~to~~
to
to
to
to

Mishkuyacu

115^m alt. (15 Kms. s.e. of Iquitos)

1-2 (San Juan) words

2-4 (Between Tierra Blanca + Mishkuyacu) dense forest

You'll probably want to give me help for collecting
so much this area, but God knows the S. J. vegetation
has changed! Notes are with each specimen. Switch
any you are sure we have.

C. Smith